

The Alignment of Common Core and ACT's College and Career Readiness System

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Introduction

The Common Core State Standards Initiative represents one of the most significant reforms to our education system in recent memory. With 48 states, two territories, and the District of Columbia committing to the development of the Standards, our nation will have—for the first time—consensus on two essential issues necessary to significantly improving the college and career readiness of our nation’s students.

First, the Common Core State Standards Initiative presents a common definition of the knowledge and skills necessary for students to be “ready for college and career.” ACT has long defined college and career readiness as the acquisition of the knowledge and skills a student needs to enroll and succeed in credit-bearing, first-year courses at a postsecondary institution (such as a two- or four-year college, trade school, or technical school) without the need for remediation. ACT’s definition has since been adopted by the Common Core State Standards Initiative and provides a unifying goal for educators and policymakers to act upon.

Second, with this definition of college and career readiness in mind, the Common Core State Standards Initiative provides the most significant state-led effort to establish K–12 standards based on empirical evidence and research. Not only did the initiative draw on ACT’s longitudinal research identifying knowledge and skills that are essential for success in postsecondary education and workforce training, but it also sought additional evidence such as standards from high-performing countries and states, academic research on learning progressions, and other resources to support the inclusion of each standard within the Common Core framework.

While these achievements are significant, numerous challenges still need to be addressed by states, districts, and schools as they incorporate the standards into daily practice. To this end, ACT has prepared this report to assist education leaders and policymakers who are evaluating the Common Core State Standards for adoption and implementation.

ACT’s experts on standards developed this report for several distinct purposes. For states initiating the process of formally adopting the Common Core State Standards, the report can help education and policy leaders:

- Demonstrate the alignment between the new Common Core State Standards and the more commonly understood ACT College Readiness Standards™ and ACT Course Standards.
- Provide evidence of current student performance relative to the Common Core State Standards by using scores from ACT assessments. Given ACT’s research base, the percentage of students meeting ACT’s College Readiness Benchmarks in English, Reading, and Mathematics can serve as a measure of what percentage of students could potentially meet or exceed the Common Core’s English Language Arts and Mathematics standards. Visit www.act.org to download and review state profiles that show how ACT-tested high school graduates perform relative to ACT’s predictive benchmarks.

For those weighing implementation issues as they consider a transition to the Common Core State Standards, the report can help leaders:

- Assess the extent to which existing state grade-level and course standards in English Language Arts and Mathematics are aligned to and meet the rigor of the Common Core State Standards and the ACT College Readiness Standards.
- Evaluate how well existing curricula and instructional frameworks are aligned to the Common Core State Standards and ACT College Readiness Standards based on student performance data.
- Identify significant gaps between current state standards, the Common Core State Standards, and ACT College Readiness Standards for the purpose of identifying where to invest time and resources for curricular and instructional improvement and professional development.
- Evaluate the rigor of current state high school course standards compared to ACT’s Course Standards, which are based on decades of ACT research and are modeled on skills and knowledge that are effectively taught in rigorous, high-performing high school courses across the country.

Finally, for schools, districts, and states currently using or considering the adoption of ACT's College and Career Readiness System, this report represents ACT's assurance that the solutions provided by ACT's system are well aligned to the Common Core State Standards. Given the central role ACT played in providing research and evidence to support the development of the Common Core State Standards, it should be no surprise that the overwhelming majority of the Standards can and will continue to be assessed by ACT's College and Career Readiness System. Please note that several of the Common Core State Standards require performance tasks that are difficult to capture through current assessments. In these cases, ACT pledges to work with our stakeholders to develop strategies and solutions that maximize the coverage of the Common Core State Standards to meet the future needs of states, districts, schools, and students.

About the Standards

The three sets of standards (Common Core State Standards, ACT College Readiness Standards, and ACT Course Standards) are each based on careful research and extensive data, yet have unique characteristics and purposes, which are described below.

Common Core State Standards

The Common Core State Standards Initiative is led by the National Governors Association and the Council of Chief State School Officers, in partnership with ACT, the College Board, and Achieve. The Common Core State Standards describe the skills and knowledge students will need to be ready to succeed in entry-level, credit-bearing academic college courses in two- and four-year institutions and workforce training programs for jobs that offer a wage sufficient to support a small family, provide the potential for career advancement, and are projected to increase in the future. The Common Core State Standards were developed to be few, clear, high, internationally benchmarked, and research- and evidence-based. They are accompanied by K–12 standards that provide expectations for students at each level.

ACT College Readiness Standards

The ACT College Readiness Standards are precise, empirically derived descriptions of the essential skills and knowledge that students need to enroll in credit-bearing courses without the need for remediation.

Three ACT testing programs are aligned with the ACT College Readiness Standards: EXPLORE® for eighth and ninth graders, PLAN® for tenth graders, and the ACT® for eleventh and twelfth graders. Each of these testing programs aligns with the subset of the ACT College Readiness Standards that is appropriate for the program's grade level. Each program provides scores that offer an indication of students' educational progress relative to ACT's College Readiness Standards and, by extension, relative to the Common Core State Standards.

The ACT College Readiness Standards are informed by the ACT National Curriculum Survey®, which is a nationwide survey of postsecondary expectations conducted by ACT every 3 to 5 years. The survey yields a wealth of data, including information on what postsecondary faculty of entry-level college courses believe is important and necessary for their entering students to know.

The ACT College Readiness Standards support the ACT College and Career Readiness System, which provides an integrated series of assessment and career planning programs designed to help students increase their academic readiness for college and careers.

ACT Course Standards

The ACT Course Standards are empirically derived course standards that form the basis of ACT's high school instructional improvement program, QualityCore®. Developed from an intensive research study of high-performing high schools with significant minority and low-income enrollments, the Course Standards represent a solid, evidence-based foundation in each of the 12 QualityCore courses: English 9, 10, 11, and 12; Algebra I, Geometry, Algebra II, and Precalculus; Biology; Chemistry; Physics; and U.S. History. Each course is designed to focus on the essential skills for college and career readiness; improve the college and career readiness of all students; and raise awareness of the characteristics and best practices of rigorous courses.

Comparison Tables

The tables in Appendices A through D compare in detail the Common Core State Standards to ACT's College Readiness Standards for EXPLORE (Grades 8 and 9), PLAN (Grade 10), and the ACT (Grades 11 and 12), and to the ACT Course Standards. The Common Core State Standards for Grade 8 were compared to ACT's College Readiness Standards as measured by EXPLORE. The Common Core State Standards for Grades 9–12 were compared to ACT's College Readiness Standards as measured by EXPLORE, PLAN, and the ACT, and to ACT's Course Standards for all 12 QualityCore courses. The comparison results are summarized on page 4 and in the comparison summary table on page 5.

Summary of Comparison Between the Common Core State Standards and ACT's College Readiness System

Reading

All of the Anchor Standards of the Common Core State Standards for Reading are addressed by the ACT College Readiness Standards.

With respect to the Common Core grade-level standards for Reading, there is significant agreement between the ACT College Readiness Standards as measured by EXPLORE and the Common Core State Standards for Grade 8 in Reading Informational Text, Literacy in History/Social Studies, and Literacy in Science and Technical Subjects. There is partial agreement between the skills measured by EXPLORE and the Common Core State Standards for Grade 8 Reading Literature. (EXPLORE does not cover, for example, analyzing the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script.)

For the Common Core State Standards for high school, both PLAN and the ACT show significant agreement with the Common Core State Standards for Grades 9–12 in Reading Informational Text, Reading Literature, Literacy in History/Social Studies, and Literacy in Science and Technical Subjects. (See Appendix A.)

ACT Course Standards address all of the Common Core State Standards for Reading. (See Appendix C.)

Writing

In Writing, the ACT College Readiness Standards partially address the Common Core State Standards. Areas the ACT Standards do not directly address are writing narratives, using technology to publish writing, and writing research papers. Areas the ACT Standards do address are writing arguments, producing clear and coherent writing, and writing in shorter time frames. (See Appendix A.)

The ACT Course Standards thoroughly address all the Common Core State Standards for Writing. (See Appendix C.)

Speaking and Listening

The ACT College Readiness Standards do not address the Common Core State Standards in Speaking and Listening. (See Appendix A.)

The ACT Course Standards for each course thoroughly address the Common Core State Standards for Speaking and Listening. (See Appendix C.)

Language

All the Common Core State Standards for Language, including the Language Progressive Skills that are introduced in earlier grades but require continued attention in higher grades through Grade 12, are addressed by the ACT College Readiness Standards (see Appendix A) and by the ACT Course Standards (see Appendix C).

Mathematics

The ACT College Readiness Standards thoroughly address all Common Core State Standards for Mathematical Content in all six conceptual categories: Number and Quantity, Algebra, Functions, Modeling, Geometry, and Statistics and Probability.

The ACT College Readiness Standards also address the Common Core State Standards for Mathematical Practice, with the exception of one of the Mathematical Practices, the practice of using appropriate tools strategically. (See Appendix B.)

All of the Common Core State Standards for Mathematics—both those for Mathematical Practice and those for Mathematical Content—are addressed by the ACT Course Standards. (See Appendix D.)

Comparison Summary Table

Percentage of the Common Core State Standards Addressed by the ACT Standards

Common Core State Standards	ACT College Readiness Standards			
	EXPLORE (Grades 8–9)	PLAN (Grade 10)	ACT (Grades 11–12)	ACT Course Standards
Reading Anchor Standards	100%	100%	100%	100%
Reading Standards for Literature	45%	56%	67%	100%
Reading Standards for Informational Text	80%	70%	60%	100%
Reading Standards for History/Social Studies	70%	50%	30%	100%
Reading Standards for Literacy in Science and Technical Subjects	100%	100%	100%	100%
Writing Anchor Standards	10%	10%	50%	100%
Writing Standards	10%	10%	50%	100%
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects	10%	11%	11%	100%
Speaking and Listening Anchor Standards				100%
Speaking and Listening Standards				100%
Language Anchor Standards	100%	100%	100%	100%
Language Standards	100%	100%	100%	100%
Language Progressive Skills	100%	100%	100%	100%
Standards for Mathematical Content, Grade 8	100%	N/A	N/A	100%
Standards for Mathematical Content, Grades 9–12	100%	100%	100%	100%
Standards for Mathematical Practice	88%	88%	88%	100%

Overall Comparison

ACT's College Readiness Standards and ACT Course Standards match well with the Common Core State Standards. The domain covered by ACT's College Readiness System is consistent with and aligns well with the Common Core State Standards at multiple points in time throughout middle and high school and expresses the shared goal of preparation for college and career.

To the Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects, ACT's Course Standards match 100%; ACT's College Readiness Standards match closely in Reading and in Language, less closely in Writing, and not at all in Speaking/Listening.

In Mathematics, ACT's Course Standards and ACT's College Readiness Standards very closely match (88–100%) the Common Core State Standards.

The Appendices

In each appendix, the Common Core State Standards are listed in the left-hand column, and ACT's standards are listed in the right-hand column. Yellow highlighting indicates that the Common Core State Standard is addressed by ACT's standards.

Appendix A

Appendix A (pp. A-1 through A-130) shows the correspondence between the Common Core State Standards in Reading (pp. A-1 through A-78), Writing (pp. A-79 through A-107), Speaking and Listening (pp. A-108 through A-111), and Language (pp. A-112 through A-130) and the ACT College Readiness Standards.

Appendix B

Appendix B (pp. B-1 through B-34) shows the correspondence between the Common Core State Standards in Mathematics and the ACT College Readiness Standards.

Appendix C

Appendix C (pp. C-1 through C-77) shows the correspondence between the Common Core State Standards in Reading (pp. C-1 through C-31), Writing (pp. C-32 through C-59), Speaking and Listening (pp. C-60 through C-67), and Language (pp. C-68 through C-77) and the ACT Course Standards.

Appendix D

Appendix D (pp. D-1 through D-44) shows the correspondence between the Common Core State Standards in Mathematics and the ACT Course Standards.



Appendix A

Table Comparing

**ACT's College Readiness Standards for EXPLORE, PLAN, and the ACT
with the**

Common Core State Standards for

English Language Arts

& Literacy in History/Social Studies,

Science, and Technical Subjects

Reading

Key Ideas and Details

<p>1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</p>	<p><i>All the ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Locate and interpret details in complex passages</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p>
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Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards Reading and Science
Reading	
Key Ideas and Details	
	<p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p>Understand and generalize about portions of a complex literary narrative</p>
<p>2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards	ACT College Readiness Standards Reading and Science
Reading	
Key Ideas and Details	
	<p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p>
<p>3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards Reading and Science
Reading	
Key Ideas and Details	
	<p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p>Understand and generalize about portions of a complex literary narrative</p>
Craft and Structure	
<p>4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p>Understand and generalize about portions of a complex literary narrative</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards Reading and Science
Craft and Structure	
<p>5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p>
<p>6. Assess how point of view or purpose shapes the content and style of a text.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards Reading and Science
Integration of Knowledge and Ideas	
<p>7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>
<p>8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.</p>	<p><i>All the ACT College Readiness Standards in Reading (as listed on pp. A-1 and A-2)</i></p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards Reading and Science
Integration of Knowledge and Ideas	
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>
Range of Reading and Level of Text Complexity	
10. Read and comprehend complex literary and informational texts independently and proficiently.	<p><i>All the ACT College Readiness Standards in Reading (as listed on pp. A-1 and A-2)</i></p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading EXPLORE
Reading		
Reading Standards for Literature		[RL]
Key Ideas and Details		
1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.		
2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p>
3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify relationships between main characters in uncomplicated literary narratives Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives Order simple sequences of events in uncomplicated literary narratives Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Identify clear relationships between characters, ideas, and so on in more challenging literary narratives Understand implied or subtly stated cause-effect relationships in uncomplicated passages Identify clear cause-effect relationships in more challenging passages</p> <p>Generalizations and Conclusions: Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading EXPLORE	
Reading			
Reading Standards for Literature		[RL]	
		Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives Draw generalizations and conclusions about people, ideas, and so on in more challenging passages	
Craft and Structure			
4.	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	<i>Selected ACT College Readiness Standards in Reading:</i> Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Generalizations and Conclusions: Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives Draw generalizations and conclusions about people, ideas, and so on in more challenging passages	
5.	Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.		
6.	Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.		
Integration of Knowledge and Ideas			
7.	Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.		
8.	(Not applicable to literature)		
9.	Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT College Readiness Standards Reading EXPLORE
Reading	
Reading Standards for Literature	[RL]
Range of Reading and Level of Text Complexity	
<p>10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading EXPLORE
Reading		
Reading Standards for Literature		[RL]
Range of Reading and Level of Text Complexity		
	<p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Informational Text		[RI]	
Key Ideas and Details			
1.	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.		
2.	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p>	
3.	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Understand implied or subtly stated cause-effect relationships in uncomplicated passages Identify clear cause-effect relationships in more challenging passages</p> <p>Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science EXPLORE
Reading		
Reading Standards for Informational Text		[R]
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>
5. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Informational Text		[RI]	
Craft and Structure			
6.	Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Informational Text		[RI]	
Integration of Knowledge and Ideas			
7.	Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.		
8.	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Informational Text		[RI]	
Integration of Knowledge and Ideas			
		<p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>	
9.	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT College Readiness Standards Reading and Science EXPLORE
Reading	
Reading Standards for Informational Text	
[R]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards Reading and Science <i>EXPLORE</i>
Reading		
Reading Standards for Informational Text		[R]
Range of Reading and Level of Text Complexity		
	<p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading EXPLORE
Reading		
Reading Standards for Literacy in History/Social Studies [RH]		
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources.		
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p>
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p>
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p>
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p>
6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading EXPLORE	
Reading			
Reading Standards for Literacy in History/Social Studies		[RH]	
		Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages	
Integration of Knowledge and Ideas			
7.	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.		
8.	Distinguish among fact, opinion, and reasoned judgment in a text.	Selected ACT College Readiness Standards in Reading: Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages	
9.	Analyze the relationship between a primary and secondary source on the same topic.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8	ACT College Readiness Standards Reading EXPLORE
Reading	
Reading Standards for Literacy in History/Social Studies	
[RH]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading and Science EXPLORE
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Analyze given information when presented with new, simple information</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>	
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>	
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading and Science EXPLORE
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p>	
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p>	
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Scientific Investigation: Understand the methods and tools used in a simple experiment Understand a simple experimental design</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Grades 6–8</i>	ACT College Readiness Standards Reading and Science <i>EXPLORE</i>
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
	Identify key issues or assumptions in a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8	ACT College Readiness Standards Reading and Science EXPLORE
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Integration of Knowledge and Ideas	
<p>7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Analyze given information when presented with new, simple information</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p>
<p>8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) Analyze given information when presented with new, simple information</p> <p>Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Integration of Knowledge and Ideas			
		Understand a simple experimental design Identify a control in an experiment Identify similarities and differences between experiments Determine the experimental conditions that would produce specified results Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion	
9.	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	Selected ACT College Readiness Standards in Reading: Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages Selected ACT College Readiness Standards in Science: Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) Analyze given information when presented with new, simple information Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Identify similarities and differences between experiments Determine the experimental conditions that would produce specified results	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading and Science EXPLORE	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Integration of Knowledge and Ideas			
		Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8	ACT College Readiness Standards Reading and Science EXPLORE
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Supporting Details: Locate basic facts (e.g., names, dates, events) clearly stated in a passage Locate simple details at the sentence and paragraph level in uncomplicated passages Recognize a clear function of a part of an uncomplicated passage Locate important details in uncomplicated passages Make simple inferences about how details are used in passages Locate important details in more challenging passages Locate and interpret minor or subtly stated details in uncomplicated passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Understand implied or subtly stated cause-effect relationships in uncomplicated passages Identify clear cause-effect relationships in more challenging passages</p> <p>Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards Reading and Science <i>EXPLORE</i>	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Range of Reading and Level of Text Complexity			
		<i>Selected ACT College Readiness Standards in Science:</i> Interpretation of Data: Select two or more pieces of data from a simple data presentation Understand basic scientific terminology	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN	
Reading			
Reading Standards for Literature		[RL]	
Key Ideas and Details			
1.	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		
2.	Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p>	
3.	Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading EXPLORE/PLAN
Reading	
Reading Standards for Literature	[RL]
Key Ideas and Details	
	<p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN
Reading		
Reading Standards for Literature		[RL]
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p>	
5. Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Order sequences of events in uncomplicated passages</p> <p>Order sequences of events in more challenging passages</p>	
6. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN
Reading		
Reading Standards for Literature		[RL]
Integration of Knowledge and Ideas		
7. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus).		
8. (Not applicable to literature)		
9. Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).		
Range of Reading and Level of Text Complexity		
10. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9–10 text complexity band independently and proficiently.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Recognize a clear intent of an author or narrator in uncomplicated literary narratives Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details: Locate basic facts (e.g., names, dates, events) clearly stated in a passage Locate simple details at the sentence and paragraph level in uncomplicated passages Recognize a clear function of a part of an uncomplicated passage Locate important details in uncomplicated passages Make simple inferences about how details are used in passages Locate important details in more challenging passages Locate and interpret minor or subtly stated details in uncomplicated passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify relationships between main characters in uncomplicated literary narratives Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives Order simple sequences of events in uncomplicated literary narratives</p>	

Reading

Reading Standards for Literature

[RL]

- Identify clear relationships between people, ideas, and so on in uncomplicated passages
- Identify clear cause-effect relationships in uncomplicated passages
- Order sequences of events in uncomplicated passages
- Understand relationships between people, ideas, and so on in uncomplicated passages
- Identify clear relationships between characters, ideas, and so on in more challenging literary narratives
- Understand implied or subtly stated cause-effect relationships in uncomplicated passages
- Identify clear cause-effect relationships in more challenging passages
- Order sequences of events in more challenging passages
- Understand the dynamics between people, ideas, and so on in more challenging passages
- Understand implied or subtly stated cause-effect relationships in more challenging passages
- Meanings of Words:**
- Understand the implication of a familiar word or phrase and of simple descriptive language
- Use context to understand basic figurative language
- Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages
- Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages
- Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages
- Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts
- Generalizations and Conclusions:**
- Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives
- Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages
- Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages
- Draw simple generalizations and conclusions using details that support the main points of more challenging passages
- Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives
- Draw generalizations and conclusions about people, ideas, and so on in more challenging passages
- Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Informational Text		[RI]	
Key Ideas and Details			
1.	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		
2.	Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument</p>	
3.	Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Identify clear relationships between people, ideas, and so on in uncomplicated passages Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Order sequences of events in more challenging passages Understand the dynamics between people, ideas, and so on in more challenging passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Informational Text		[RI]	
Craft and Structure			
4.	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p>	
5.	Analyze in detail how an author’s ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading		
Reading Standards for Informational Text		[RI]
Craft and Structure		
6.	Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading		
Reading Standards for Informational Text		[R]
Integration of Knowledge and Ideas		
7. Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.		
8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Informational Text		[RI]	
Integration of Knowledge and Ideas			
		<p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p>	
9.	Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading	
Reading Standards for Informational Text	
[R]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Informational Text		[RI]	
Range of Reading and Level of Text Complexity			
		<p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in History/Social Studies		[RH]	
Key Ideas and Details			
1.	Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.		
2.	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p>	
3.	Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Craft and Structure		
4.	Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.	<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts
5.	Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	<i>Selected ACT College Readiness Standards in Reading:</i> Main Ideas and Author’s Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument
6.	Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	
Integration of Knowledge and Ideas		
7.	Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	
8.	Assess the extent to which the reasoning and evidence in a text support the author’s claims.	
9.	Compare and contrast treatments of the same topic in several primary and secondary sources.	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading EXPLORE/PLAN
Reading	
Reading Standards for Literacy in History/Social Studies	
[RH]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in History/Social Studies		[RH]	
Range of Reading and Level of Text Complexity			
		Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Key Ideas and Details			
1.	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Analyze given information when presented with new, simple information</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Determine whether new information supports or weakens a model, and why</p>	
2.	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Key Ideas and Details			
		Find basic information in a brief body of text Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model	
3.	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.	Selected ACT College Readiness Standards in Science: Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Understand the methods and tools used in a complex experiment Understand a complex experimental design Determine the experimental conditions that would produce specified results	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Craft and Structure			
4.	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.	<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts <i>Selected ACT College Readiness Standards in Science:</i> Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model	
5.	Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i> , <i>friction</i> , <i>reaction force</i> , <i>energy</i>).	<i>Selected ACT College Readiness Standards in Reading:</i> Sequential, Comparative, and Cause-Effect Relationships: Identify clear relationships between people, ideas, and so on in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Understand the dynamics between people, ideas, and so on in more challenging passages Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts <i>Selected ACT College Readiness Standards in Science:</i> Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Craft and Structure	
<p>6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Understand the methods and tools used in a complex experiment Understand a complex experimental design Determine the experimental conditions that would produce specified results Determine the hypothesis for an experiment</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Integration of Knowledge and Ideas	
<p>7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p> <p>Compare or combine data from a complex data presentation</p> <p>Identify and/or use a simple (e.g., linear) mathematical relationship between data</p> <p>Analyze given information when presented with new, simple information</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p>
<p>8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p> <p>Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Compare or combine data from a complex data presentation</p> <p>Determine how the value of one variable changes as the value of another variable changes in a complex data presentation</p> <p>Analyze given information when presented with new, simple information</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Scientific Investigation:</p> <p>Understand the methods and tools used in a simple experiment</p> <p>Understand the methods and tools used in a moderately complex experiment</p> <p>Understand a simple experimental design</p> <p>Identify a control in an experiment</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Integration of Knowledge and Ideas			
		Identify similarities and differences between experiments Understand the methods and tools used in a complex experiment Understand a complex experimental design Determine the experimental conditions that would produce specified results Determine the hypothesis for an experiment Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Determine whether new information supports or weakens a model, and why Use new information to make a prediction based on a model	
9.	Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.	Selected ACT College Readiness Standards in Science: Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram) Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) Compare or combine data from a complex data presentation Determine how the value of one variable changes as the value of another variable changes in a complex data presentation Analyze given information when presented with new, simple information Compare or combine data from a simple data presentation with data from a complex data presentation Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Integration of Knowledge and Ideas			
		<p>Identify a control in an experiment</p> <p>Identify similarities and differences between experiments</p> <p>Understand the methods and tools used in a complex experiment</p> <p>Understand a complex experimental design</p> <p>Determine the experimental conditions that would produce specified results</p> <p>Determine the hypothesis for an experiment</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Determine which model(s) is(are) supported or weakened by new information</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Determine whether new information supports or weakens a model, and why</p> <p>Use new information to make a prediction based on a model</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards Reading and Science EXPLORE/PLAN
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards Reading and Science EXPLORE/PLAN	
Reading			
Reading Standards for Literacy in Science and Technical Subjects [RST]			
Range of Reading and Level of Text Complexity			
		<p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT	
Reading			
Reading Standards for Literature		[RL]	
Key Ideas and Details			
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.			
2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT
Reading		
Reading Standards for Literature		[RL]
Key Ideas and Details		
3. Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).	Selected ACT College Readiness Standards in Reading: Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Understand the function of a part of a passage when the function is subtle or complex	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)	Selected ACT College Readiness Standards in Reading: Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Understand the function of a part of a passage when the function is subtle or complex Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	
5. Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.	Selected ACT College Readiness Standards in Reading: Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Understand the function of a part of a passage when the function is subtle or complex	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT
Reading		
Reading Standards for Literature		[RL]
Craft and Structure		
6.	Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p>
Integration of Knowledge and Ideas		
7.	Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)	
8.	(Not applicable to literature)	
9.	Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading ACT
Reading	
Reading Standards for Literature	[RL]
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11–CCR text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Locate and interpret details in complex passages</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT	
Reading			
Reading Standards for Literature		[RL]	
Range of Reading and Level of Text Complexity			
		<p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p>Understand and generalize about portions of a complex literary narrative</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading and Science ACT
Reading		
Reading Standards for Informational Text		[R]
Key Ideas and Details		
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.		
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p>
3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Informational Text	
Key Ideas and Details	
	<p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Locate and interpret details in complex passages</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading and Science ACT	
Reading			
Reading Standards for Informational Text		[RI]	
Key Ideas and Details			
		Generalizations and Conclusions: Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages Draw generalizations and conclusions about people, ideas, and so on in more challenging passages Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage	
Craft and Structure			
4.	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines <i>faction</i> in <i>Federalist</i> No. 10).	<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	
5.	Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.	<i>Selected ACT College Readiness Standards in Reading:</i> Main Ideas and Author’s Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage	
6.	Determine an author’s point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading and Science ACT	
Reading			
Reading Standards for Informational Text		[RI]	
Integration of Knowledge and Ideas			
7.	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p> <p>Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Compare or combine data from a complex data presentation</p> <p>Determine how the value of one variable changes as the value of another variable changes in a complex data presentation</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Compare or combine data from two or more complex data presentations</p> <p>Analyze given information when presented with new, complex information</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>	
8.	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., <i>The Federalist</i> , presidential addresses).		
9.	Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address) for their themes, purposes, and rhetorical features.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Informational Text	
[R]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author’s Approach:</p> <p>Recognize a clear intent of an author or narrator in uncomplicated literary narratives</p> <p>Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details:</p> <p>Locate basic facts (e.g., names, dates, events) clearly stated in a passage</p> <p>Locate simple details at the sentence and paragraph level in uncomplicated passages</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Locate important details in uncomplicated passages</p> <p>Make simple inferences about how details are used in passages</p> <p>Locate important details in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in uncomplicated passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Locate and interpret minor or subtly stated details in more challenging passages</p> <p>Locate and interpret details in complex passages</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships:</p> <p>Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages</p> <p>Recognize clear cause-effect relationships described within a single sentence in a passage</p> <p>Identify relationships between main characters in uncomplicated literary narratives</p> <p>Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives</p> <p>Order simple sequences of events in uncomplicated literary narratives</p> <p>Identify clear relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear cause-effect relationships in uncomplicated passages</p> <p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Identify clear relationships between characters, ideas, and so on in more challenging literary narratives</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Informational Text	[R]
Range of Reading and Level of Text Complexity	
	<p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p>Understand and generalize about portions of a complex literary narrative</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.		
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p>
3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.		
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines <i>faction</i> in <i>Federalist</i> No. 10).		<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p>
5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.		
6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading ACT
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Integration of Knowledge and Ideas		
7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.		
8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.		
9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.		
Range of Reading and Level of Text Complexity		
10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details: Locate basic facts (e.g., names, dates, events) clearly stated in a passage Locate simple details at the sentence and paragraph level in uncomplicated passages Recognize a clear function of a part of an uncomplicated passage Locate important details in uncomplicated passages Make simple inferences about how details are used in passages Locate important details in more challenging passages Locate and interpret minor or subtly stated details in uncomplicated passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Locate and interpret minor or subtly stated details in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument Locate and interpret details in complex passages Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading ACT
Reading	
Reading Standards for Literacy in History/Social Studies	[RH]
	<p>Order sequences of events in uncomplicated passages</p> <p>Understand relationships between people, ideas, and so on in uncomplicated passages</p> <p>Understand implied or subtly stated cause-effect relationships in uncomplicated passages</p> <p>Identify clear cause-effect relationships in more challenging passages</p> <p>Order sequences of events in more challenging passages</p> <p>Understand the dynamics between people, ideas, and so on in more challenging passages</p> <p>Understand implied or subtly stated cause-effect relationships in more challenging passages</p> <p>Order sequences of events in complex passages</p> <p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Key Ideas and Details	
<p>1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages</p> <p>Infer the main idea or purpose of straightforward paragraphs in more challenging passages</p> <p>Summarize basic events and ideas in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Infer the main idea or purpose of more challenging passages or their paragraphs</p> <p>Summarize events and ideas in virtually any passage</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p>Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Analyze given information when presented with new, simple information</p> <p>Analyze given information when presented with new, complex information</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Determine whether new information supports or weakens a model, and why</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Key Ideas and Details	
<p>2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>
<p>3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels) Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram) Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Key Ideas and Details	
	<p>Compare or combine data from a complex data presentation</p> <p>Analyze given information when presented with new, simple information</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Compare or combine data from two or more complex data presentations</p> <p>Analyze given information when presented with new, complex information</p> <p>Scientific Investigation:</p> <p>Understand the methods and tools used in a simple experiment</p> <p>Understand the methods and tools used in a moderately complex experiment</p> <p>Understand a simple experimental design</p> <p>Identify a control in an experiment</p> <p>Understand the methods and tools used in a complex experiment</p> <p>Understand a complex experimental design</p> <p>Determine the experimental conditions that would produce specified results</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards Reading and Science ACT
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p>	
5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach:</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages</p> <p>Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Craft and Structure	
<p>6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details: Recognize a clear function of a part of an uncomplicated passage Make simple inferences about how details are used in passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument Understand the function of a part of a passage when the function is subtle or complex</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p> <p>Scientific Investigation: Understand the methods and tools used in a simple experiment Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Understand the methods and tools used in a complex experiment Understand a complex experimental design</p> <p>Evaluation of Models, Inferences, and Experimental Results: Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Integration of Knowledge and Ideas	
<p>7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p> <p>Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Compare or combine data from a complex data presentation</p> <p>Determine how the value of one variable changes as the value of another variable changes in a complex data presentation</p> <p>Analyze given information when presented with new, simple information</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Compare or combine data from two or more complex data presentations</p> <p>Analyze given information when presented with new, complex</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>
<p>8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Integration of Knowledge and Ideas	
	<p>Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Compare or combine data from a complex data presentation</p> <p>Determine how the value of one variable changes as the value of another variable changes in a complex data presentation</p> <p>Analyze given information when presented with new, simple information</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Compare or combine data from two or more complex data presentations</p> <p>Analyze given information when presented with new, complex</p> <p>Scientific Investigation:</p> <p>Understand the methods and tools used in a simple experiment</p> <p>Understand the methods and tools used in a moderately complex experiment</p> <p>Understand a simple experimental design</p> <p>Identify a control in an experiment</p> <p>Identify similarities and differences between experiments</p> <p>Understand the methods and tools used in a complex experiment</p> <p>Understand a complex experimental design</p> <p>Determine the experimental conditions that would produce specified results</p> <p>Determine the hypothesis for an experiment</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Determine which model(s) is(are) supported or weakened by new information</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Determine whether new information supports or weakens a model, and why</p> <p>Use new information to make a prediction based on a model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>
<p>9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>	<p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram)</p> <p>Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Integration of Knowledge and Ideas	
	<p>Find basic information in a brief body of text</p> <p>Determine how the value of one variable changes as the value of another variable changes in a simple data presentation</p> <p>Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram)</p> <p>Compare or combine data from a simple data presentation (e.g., order or sum data from a table)</p> <p>Translate information into a table, graph, or diagram</p> <p>Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table)</p> <p>Compare or combine data from a complex data presentation</p> <p>Determine how the value of one variable changes as the value of another variable changes in a complex data presentation</p> <p>Analyze given information when presented with new, simple information</p> <p>Compare or combine data from a simple data presentation with data from a complex data presentation</p> <p>Compare or combine data from two or more complex data presentations</p> <p>Analyze given information when presented with new, complex</p> <p>Scientific Investigation:</p> <p>Understand the methods and tools used in a simple experiment</p> <p>Understand the methods and tools used in a moderately complex experiment</p> <p>Understand a simple experimental design</p> <p>Identify a control in an experiment</p> <p>Identify similarities and differences between experiments</p> <p>Understand the methods and tools used in a complex experiment</p> <p>Understand a complex experimental design</p> <p>Determine the experimental conditions that would produce specified results</p> <p>Determine the hypothesis for an experiment</p> <p>Evaluation of Models, Inferences, and Experimental Results:</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model</p> <p>Identify key issues or assumptions in a model</p> <p>Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why</p> <p>Identify strengths and weaknesses in one or more models</p> <p>Identify similarities and differences between models</p> <p>Determine which model(s) is(are) supported or weakened by new information</p> <p>Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model</p> <p>Determine whether new information supports or weakens a model, and why</p> <p>Use new information to make a prediction based on a model</p> <p>Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models</p> <p>Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Range of Reading and Level of Text Complexity	
<p>10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Main Ideas and Author's Approach: Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage Identify clear main ideas or purposes of complex passages or their paragraphs</p> <p>Supporting Details: Locate basic facts (e.g., names, dates, events) clearly stated in a passage Locate simple details at the sentence and paragraph level in uncomplicated passages Recognize a clear function of a part of an uncomplicated passage Locate important details in uncomplicated passages Make simple inferences about how details are used in passages Locate important details in more challenging passages Locate and interpret minor or subtly stated details in uncomplicated passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages Locate and interpret minor or subtly stated details in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument Locate and interpret details in complex passages Understand the function of a part of a passage when the function is subtle or complex</p> <p>Sequential, Comparative, and Cause-Effect Relationships: Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Understand implied or subtly stated cause-effect relationships in uncomplicated passages Identify clear cause-effect relationships in more challenging passages Order sequences of events in more challenging passages Understand the dynamics between people, ideas, and so on in more challenging passages Understand implied or subtly stated cause-effect relationships in more challenging passages Order sequences of events in complex passages</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Science ACT
Reading	
Reading Standards for Literacy in Science and Technical Subjects [RST]	
Range of Reading and Level of Text Complexity	
	<p>Understand the subtleties in relationships between people, ideas, and so on in virtually any passage</p> <p>Understand implied, subtle, or complex cause-effect relationships in virtually any passage</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p>Generalizations and Conclusions:</p> <p>Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages</p> <p>Draw simple generalizations and conclusions using details that support the main points of more challenging passages</p> <p>Draw generalizations and conclusions about people, ideas, and so on in more challenging passages</p> <p>Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on</p> <p>Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Select two or more pieces of data from a simple data presentation</p> <p>Understand basic scientific terminology</p>

Writing

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Selected ACT College Readiness Standards in Writing:

Expressing Judgments:

Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion

Show understanding of the complexity of the issue in the prompt by

- examining different perspectives, and/or
- evaluating implications or complications of the issue, and/or
- posing and fully discussing counterarguments to the writer's position

Focusing on the Topic:

Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay

Present a critical thesis that clearly establishes the focus on the writer's position on the issue

Developing a Position:

Develop several ideas fully, using specific and relevant reasons, details, and examples

Show effective movement between general and specific ideas and examples

Organizing Ideas:

Provide unity and coherence throughout the essay, often with a logical progression of ideas

Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas

Present a well-developed introduction and conclusion

Using Language:

Show effective use of language to clearly communicate ideas by

- correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors
- using precise and varied vocabulary
- using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards English and Writing
Writing	
Text Types and Purposes	
<p>2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.</p>	<p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Expressing Judgments: Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion Show understanding of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • examining different perspectives, and/or • evaluating implications or complications of the issue, and/or • posing and fully discussing counterarguments to the writer's position <p>Focusing on the Topic: Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay Present a critical thesis that clearly establishes the focus on the writer's position on the issue</p> <p>Developing a Position: Develop several ideas fully, using specific and relevant reasons, details, and examples Show effective movement between general and specific ideas and examples</p> <p>Organizing Ideas: Provide unity and coherence throughout the essay, often with a logical progression of ideas Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas Present a well-developed introduction and conclusion</p> <p>Using Language: Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
<p>3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards English and Writing
Writing	
Production and Distribution of Writing	
<p>4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Developing a Position: Develop several ideas fully, using specific and relevant reasons, details, and examples Show effective movement between general and specific ideas and examples</p> <p>Organizing Ideas: Provide unity and coherence throughout the essay, often with a logical progression of ideas Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas Present a well-developed introduction and conclusion</p>
<p>5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.</p>	<p><i>All the ACT College Readiness Standards in English:</i></p> <p>Topic Development in Terms of Purpose and Focus: Identify the basic purpose or role of a specified phrase or sentence Delete a clause or sentence because it is obviously irrelevant to the essay Identify the central idea or main topic of a straightforward piece of writing Determine relevancy when presented with a variety of sentence-level details Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal Delete material primarily because it disturbs the flow and development of the paragraph Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement Apply an awareness of the focus and purpose of a fairly involved essay to determine the rhetorical effect and suitability of an existing phrase or sentence, or to determine the need to delete plausible but irrelevant material Add a sentence to accomplish a subtle rhetorical purpose such as to emphasize, to add supporting detail, or to express meaning through connotation Determine whether a complex essay has accomplished a specific purpose Add a phrase or sentence to accomplish a complex purpose, often expressed in terms of the main focus of the essay</p> <p>Organization, Unity, and Coherence: Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>) Select the most logical place to add a sentence in a paragraph Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>) Decide the most logical place to add a sentence in an essay Add a sentence that introduces a simple paragraph Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>) Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward Make sophisticated distinctions concerning the logical use of conjunctive adverbs or phrases, particularly when signaling a shift between paragraphs Rearrange sentences to improve the logic and coherence of a complex paragraph Add a sentence to introduce or conclude a fairly complex paragraph Consider the need for introductory sentences or transitions, basing decisions on a thorough understanding of both the logic and rhetorical effect of the paragraph and essay</p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise sentences to correct awkward and confusing arrangements of sentence elements</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards English and Writing
Writing	
Production and Distribution of Writing	
	<p>Revise vague nouns and pronouns that create obvious logic problems</p> <p>Delete obviously synonymous and wordy material in a sentence</p> <p>Revise expressions that deviate from the style of an essay</p> <p>Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”)</p> <p>Use the word or phrase most consistent with the style and tone of a fairly straightforward essay</p> <p>Determine the clearest and most logical conjunction to link clauses</p> <p>Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence</p> <p>Identify and correct ambiguous pronoun references</p> <p>Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p>Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”)</p> <p>Correct vague and wordy or clumsy and confusing writing containing sophisticated language</p> <p>Delete redundant material that involves subtle concepts or that is redundant in terms of the paragraph as a whole</p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p> <p>Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>		ACT College Readiness Standards English and Writing
Writing		
Production and Distribution of Writing		
		<p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p>Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p> <p>Use a colon to introduce an example or an elaboration</p>
6.	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	
Research to Build and Present Knowledge		
7.	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	
8.	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	
9.	Draw evidence from literary or informational texts to support analysis, reflection, and research.	

Writing

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Selected ACT College Readiness Standards in Writing:

Expressing Judgments:

Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion

Show understanding of the complexity of the issue in the prompt by

- examining different perspectives, and/or
- evaluating implications or complications of the issue, and/or
- posing and fully discussing counterarguments to the writer's position

Focusing on the Topic:

Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay

Present a critical thesis that clearly establishes the focus on the writer's position on the issue

Developing a Position:

Develop several ideas fully, using specific and relevant reasons, details, and examples

Show effective movement between general and specific ideas and examples

Organizing Ideas:

Provide unity and coherence throughout the essay, often with a logical progression of ideas

Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas

Present a well-developed introduction and conclusion

Using Language:

Show effective use of language to clearly communicate ideas by

- correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors
- using precise and varied vocabulary
- using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards English EXPLORE
Writing		[W]
Text Types and Purposes		
<p>1. Write arguments to support claims with clear reasons and relevant evidence.</p> <ul style="list-style-type: none"> a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. 		
<p>2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.</p> <ul style="list-style-type: none"> a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented. 		
<p>3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.</p> <ul style="list-style-type: none"> a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events. 		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT College Readiness Standards English EXPLORE
Writing [W]	
Production and Distribution of Writing	
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Topic Development in Terms of Purpose and Focus: Identify the basic purpose or role of a specified phrase or sentence Delete a clause or sentence because it is obviously irrelevant to the essay Identify the central idea or main topic of a straightforward piece of writing Determine relevancy when presented with a variety of sentence-level details Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal Delete material primarily because it disturbs the flow and development of the paragraph Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement</p> <p>Organization, Unity, and Coherence: Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>) Select the most logical place to add a sentence in a paragraph Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>) Decide the most logical place to add a sentence in an essay Add a sentence that introduces a simple paragraph Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>) Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward</p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise sentences to correct awkward and confusing arrangements of sentence elements Revise vague nouns and pronouns that create obvious logic problems Delete obviously synonymous and wordy material in a sentence Revise expressions that deviate from the style of an essay Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”) Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Determine the clearest and most logical conjunction to link clauses Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence Identify and correct ambiguous pronoun references Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p>Sentence Structure and Formation: Use conjunctions or punctuation to join simple clauses Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences Decide the appropriate verb tense and voice by considering the meaning of the entire sentence Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT College Readiness Standards English EXPLORE
Writing	[W]
Production and Distribution of Writing	
	<p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p>
6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards English <i>EXPLORE</i>
Writing		[W]
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.		
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.		
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. <ul style="list-style-type: none"> a. Apply grade 8 Reading standards to literature (e.g., “Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new”). b. Apply grade 8 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced”). 		
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards English EXPLORE
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
1. Write arguments focused on discipline-specific content.		
<ul style="list-style-type: none"> a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. 		
2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.		
<ul style="list-style-type: none"> a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style and objective tone. f. Provide a concluding statement or section that follows from and supports the information or explanation presented. 		
3. (Not applicable as a separate requirement)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards English EXPLORE
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Topic Development in Terms of Purpose and Focus:</p> <p>Identify the basic purpose or role of a specified phrase or sentence</p> <p>Delete a clause or sentence because it is obviously irrelevant to the essay</p> <p>Identify the central idea or main topic of a straightforward piece of writing</p> <p>Determine relevancy when presented with a variety of sentence-level details</p> <p>Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal</p> <p>Delete material primarily because it disturbs the flow and development of the paragraph</p> <p>Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement</p> <p>Organization, Unity, and Coherence:</p> <p>Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>)</p> <p>Select the most logical place to add a sentence in a paragraph</p> <p>Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>)</p> <p>Decide the most logical place to add a sentence in an essay</p> <p>Add a sentence that introduces a simple paragraph</p> <p>Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>)</p> <p>Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic</p> <p>Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward</p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy:</p> <p>Revise sentences to correct awkward and confusing arrangements of sentence elements</p> <p>Revise vague nouns and pronouns that create obvious logic problems</p> <p>Delete obviously synonymous and wordy material in a sentence</p> <p>Revise expressions that deviate from the style of an essay</p> <p>Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”)</p> <p>Use the word or phrase most consistent with the style and tone of a fairly straightforward essay</p> <p>Determine the clearest and most logical conjunction to link clauses</p> <p>Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence</p> <p>Identify and correct ambiguous pronoun references</p> <p>Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8	ACT College Readiness Standards English EXPLORE
Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Production and Distribution of Writing	
	<p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p>
6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT College Readiness Standards English EXPLORE
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.		
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.		
9. Draw evidence from informational texts to support analysis reflection, and research.		
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English EXPLORE/PLAN
Writing		[W]
Text Types and Purposes		
<p>1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.</p> <ul style="list-style-type: none"> a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. 		
<p>2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.</p> <ul style="list-style-type: none"> a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). 		

Writing [W]

Text Types and Purposes

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
 - b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
 - c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.
 - d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
 - e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards English EXPLORE/PLAN
Writing	[W]
Production and Distribution of Writing	
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Topic Development in Terms of Purpose and Focus: Identify the basic purpose or role of a specified phrase or sentence Delete a clause or sentence because it is obviously irrelevant to the essay Identify the central idea or main topic of a straightforward piece of writing Determine relevancy when presented with a variety of sentence-level details Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal Delete material primarily because it disturbs the flow and development of the paragraph Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement Apply an awareness of the focus and purpose of a fairly involved essay to determine the rhetorical effect and suitability of an existing phrase or sentence, or to determine the need to delete plausible but irrelevant material Add a sentence to accomplish a subtle rhetorical purpose such as to emphasize, to add supporting detail, or to express meaning through connotation</p> <p>Organization, Unity, and Coherence: Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>) Select the most logical place to add a sentence in a paragraph Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>) Decide the most logical place to add a sentence in an essay Add a sentence that introduces a simple paragraph Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>) Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward Make sophisticated distinctions concerning the logical use of conjunctive adverbs or phrases, particularly when signaling a shift between paragraphs Rearrange sentences to improve the logic and coherence of a complex paragraph Add a sentence to introduce or conclude a fairly complex paragraph</p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise sentences to correct awkward and confusing arrangements of sentence elements Revise vague nouns and pronouns that create obvious logic problems Delete obviously synonymous and wordy material in a sentence Revise expressions that deviate from the style of an essay Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”) Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Determine the clearest and most logical conjunction to link clauses Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence Identify and correct ambiguous pronoun references Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards English EXPLORE/PLAN
Writing	[W]
Production and Distribution of Writing	
	<p>Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”)</p> <p>Correct vague and wordy or clumsy and confusing writing containing sophisticated language</p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English EXPLORE/PLAN
Writing		[W]
Production and Distribution of Writing		
		<p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p>
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.		
Research to Build and Present Knowledge		
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.		
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. <ul style="list-style-type: none"> a. Apply grades 9–10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]"). b. Apply grades 9–10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning"). 		
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English EXPLORE/PLAN
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
<p>1. Write arguments focused on discipline-specific content.</p> <ul style="list-style-type: none"> a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. 		
<p>2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). 		
3. (Not applicable as a separate requirement)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English EXPLORE/PLAN
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.		<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Topic Development in Terms of Purpose and Focus:</p> <p>Identify the basic purpose or role of a specified phrase or sentence</p> <p>Delete a clause or sentence because it is obviously irrelevant to the essay</p> <p>Identify the central idea or main topic of a straightforward piece of writing</p> <p>Determine relevancy when presented with a variety of sentence-level details</p> <p>Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal</p> <p>Delete material primarily because it disturbs the flow and development of the paragraph</p> <p>Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement</p> <p>Apply an awareness of the focus and purpose of a fairly involved essay to determine the rhetorical effect and suitability of an existing phrase or sentence, or to determine the need to delete plausible but irrelevant material</p> <p>Add a sentence to accomplish a subtle rhetorical purpose such as to emphasize, to add supporting detail, or to express meaning through connotation</p> <p>Organization, Unity, and Coherence:</p> <p>Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>)</p> <p>Select the most logical place to add a sentence in a paragraph</p> <p>Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>)</p> <p>Decide the most logical place to add a sentence in an essay</p> <p>Add a sentence that introduces a simple paragraph</p> <p>Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>)</p> <p>Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic</p> <p>Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward</p> <p>Make sophisticated distinctions concerning the logical use of conjunctive adverbs or phrases, particularly when signaling a shift between paragraphs</p> <p>Rearrange sentences to improve the logic and coherence of a complex paragraph</p> <p>Add a sentence to introduce or conclude a fairly complex paragraph</p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy:</p> <p>Revise sentences to correct awkward and confusing arrangements of sentence elements</p> <p>Revise vague nouns and pronouns that create obvious logic problems</p> <p>Delete obviously synonymous and wordy material in a sentence</p> <p>Revise expressions that deviate from the style of an essay</p> <p>Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”)</p> <p>Use the word or phrase most consistent with the style and tone of a fairly straightforward essay</p> <p>Determine the clearest and most logical conjunction to link clauses</p> <p>Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence</p> <p>Identify and correct ambiguous pronoun references</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards English EXPLORE/PLAN
Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Production and Distribution of Writing	
	<p>Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p>Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”)</p> <p>Correct vague and wordy or clumsy and confusing writing containing sophisticated language</p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English EXPLORE/PLAN
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
		<p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p>
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.		
Research to Build and Present Knowledge		
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.		
9. Draw evidence from informational texts to support analysis, reflection, and research.		
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.		

Writing [W]

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
 - a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
 - b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
 - c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
 - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.

Selected ACT College Readiness Standards in Writing:

Expressing Judgments:

Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion

Show understanding of the complexity of the issue in the prompt by

- examining different perspectives, and/or
- evaluating implications or complications of the issue, and/or
- posing and fully discussing counterarguments to the writer's position

Focusing on the Topic:

Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay

Present a critical thesis that clearly establishes the focus on the writer's position on the issue

Developing a Position:

Develop several ideas fully, using specific and relevant reasons, details, and examples

Show effective movement between general and specific ideas and examples

Organizing Ideas:

Provide unity and coherence throughout the essay, often with a logical progression of ideas

Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas

Present a well-developed introduction and conclusion

Using Language:

Show effective use of language to clearly communicate ideas by

- correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors
- using precise and varied vocabulary
- using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards English and Writing ACT
Writing	[W]
Text Types and Purposes	
<p>2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.</p> <ul style="list-style-type: none"> a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). 	<p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Expressing Judgments: Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion Show understanding of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • examining different perspectives, and/or • evaluating implications or complications of the issue, and/or • posing and fully discussing counterarguments to the writer's position <p>Focusing on the Topic: Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay Present a critical thesis that clearly establishes the focus on the writer's position on the issue</p> <p>Developing a Position: Develop several ideas fully, using specific and relevant reasons, details, and examples Show effective movement between general and specific ideas and examples</p> <p>Organizing Ideas: Provide unity and coherence throughout the essay, often with a logical progression of ideas Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas Present a well-developed introduction and conclusion</p> <p>Using Language: Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
<p>3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.</p> <ul style="list-style-type: none"> a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution). d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. 	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards English and Writing ACT
Writing		[W]
Production and Distribution of Writing		
4.	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Developing a Position: Develop several ideas fully, using specific and relevant reasons, details, and examples Show effective movement between general and specific ideas and examples</p> <p>Organizing Ideas: Provide unity and coherence throughout the essay, often with a logical progression of ideas Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas Present a well-developed introduction and conclusion</p>
5.	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	<i>All the ACT College Readiness Standards in English (as listed on pp. A-81 through A-83)</i>
6.	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	
Research to Build and Present Knowledge		
7.	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	
8.	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	
9.	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>a. Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).</p> <p>b. Apply grades 11–12 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy (e.g., <i>The Federalist</i>, presidential addresses)”).</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards English and Writing ACT
Writing	[W]
Range of Writing	
<p>10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</p>	<p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Expressing Judgments: Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion Show understanding of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • examining different perspectives, and/or • evaluating implications or complications of the issue, and/or • posing and fully discussing counterarguments to the writer's position <p>Focusing on the Topic: Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay Present a critical thesis that clearly establishes the focus on the writer's position on the issue</p> <p>Developing a Position: Develop several ideas fully, using specific and relevant reasons, details, and examples Show effective movement between general and specific ideas and examples</p> <p>Organizing Ideas: Provide unity and coherence throughout the essay, often with a logical progression of ideas Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas Present a well-developed introduction and conclusion</p> <p>Using Language: Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards English and Writing ACT
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
<p>1. Write arguments focused on discipline-specific content.</p> <ul style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. 		
<p>2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <ul style="list-style-type: none"> a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). 		
3. (Not applicable as a separate requirement)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards English and Writing ACT
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.		<i>All the ACT College Readiness Standards in English (as listed on pp. A-81 through A-83)</i>
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.		
Research to Build and Present Knowledge		
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.		
9. Draw evidence from informational texts to support analysis, reflection, and research.		
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>		ACT College Readiness Standards
Speaking and Listening		
Comprehension and Collaboration		
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.		
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.		
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.		
Presentation of Knowledge and Ideas		
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.		
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.		
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards
Speaking and Listening		[SL]
Comprehension and Collaboration		
1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.		
a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.		
b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.		
c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.		
d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.		
2. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.		
3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.		
Presentation of Knowledge and Ideas		
4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.		
5. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.		
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards
Speaking and Listening		[SL]
Comprehension and Collaboration		
1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.		
a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.		
b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.		
c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.		
d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.		
2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.		
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.		
Presentation of Knowledge and Ideas		
4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.		
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.		
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT College Readiness Standards
Speaking and Listening		[SL]
Comprehension and Collaboration		
1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.		
a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.		
b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.		
c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.		
d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.		
2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.		
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.		
Presentation of Knowledge and Ideas		
4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.		
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.		
6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT College Readiness Standards English, Reading, and Writing
Language	
Conventions of Standard English	
<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p> <p>Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p>Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards	ACT College Readiness Standards English, Reading, and Writing
Language	
Conventions of Standard English	
<p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p> <p>Use a colon to introduce an example or an elaboration</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors using precise and varied vocabulary using a variety of kinds of sentence structures to vary pace and to support meaning
<p>3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy:</p> <p>Revise sentences to correct awkward and confusing arrangements of sentence elements</p> <p>Revise vague nouns and pronouns that create obvious logic problems</p> <p>Delete obviously synonymous and wordy material in a sentence</p> <p>Revise expressions that deviate from the style of an essay</p> <p>Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”)</p> <p>Use the word or phrase most consistent with the style and tone of a fairly straightforward essay</p> <p>Determine the clearest and most logical conjunction to link clauses</p> <p>Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence</p> <p>Identify and correct ambiguous pronoun references</p> <p>Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p>Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”)</p> <p>Correct vague and wordy or clumsy and confusing writing containing sophisticated language</p> <p>Delete redundant material that involves subtle concepts or that is redundant in terms of the paragraph as a whole</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT College Readiness Standards English, Reading, and Writing	
Language			
Conventions of Standard English			
		<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage <i>Selected ACT College Readiness Standards in Writing:</i> Using Language: Show effective use of language to clearly communicate ideas by <ul style="list-style-type: none">• correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors• using precise and varied vocabulary• using a variety of kinds of sentence structures to vary pace and to support meaning	
Vocabulary Acquisition and Use			
4.	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	
5.	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	<i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	

Language

Vocabulary Acquisition and Use

6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Selected ACT College Readiness Standards in English:

Word Choice in Terms of Style, Tone, Clarity, and Economy:

Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay

Selected ACT College Readiness Standards in Reading:

Meanings of Words:

Understand the implication of a familiar word or phrase and of simple descriptive language

Use context to understand basic figurative language

Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages

Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages

Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages

Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts

Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage

Selected ACT College Readiness Standards in Writing:

Show effective use of language to clearly communicate ideas by

- correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors
- using precise and varied vocabulary
- using a variety of kinds of sentence structures to vary pace and to support meaning

Selected ACT College Readiness Standards in Science:

Interpretation of Data:

Understand basic scientific terminology

Find basic information in a brief body of text

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Usage: Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts Ensure that a verb agrees with its subject when there is some text between the two Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun) Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p>
L.3.3a. Choose words and phrases for effect.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise expressions that deviate from the style of an essay Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language: Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Use conjunctions or punctuation to join simple clauses Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers) Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p>
L.4.1g. Correctly use frequently confused words (e.g., <i>to/too/two; there/their</i>).	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Usage: Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i> Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i> Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
L.4.3b. Choose punctuation for effect.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Use conjunctions or punctuation to join simple clauses Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Conventions of Punctuation: Delete commas that create basic sense problems (e.g., between verb and direct object) Delete commas that disturb the sentence flow (e.g., between modifier and modified element) Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause) Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>) Use a semicolon to indicate a relationship between closely related independent clauses</p> <p><i>Selected ACT College Readiness Standards in Writing:</i> Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
L.5.1d. Recognize and correct inappropriate shifts in verb tense.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences Decide the appropriate verb tense and voice by considering the meaning of the entire sentence Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p>
L.5.2a. Use punctuation to separate items in a series.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Punctuation: Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p>
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p>
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise vague nouns and pronouns that create obvious logic problems Identify and correct ambiguous pronoun references</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
<p>L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p> <p>Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p>Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
	<p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p> <p>Use a colon to introduce an example or an elaboration</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors using precise and varied vocabulary using a variety of kinds of sentence structures to vary pace and to support meaning
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Punctuation:</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p>
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
	Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses
L.6.3b. Maintain consistency in style and tone.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise expressions that deviate from the style of an essay Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p>
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers) Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p>
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise sentences to correct awkward and confusing arrangements of sentence elements Revise vague nouns and pronouns that create obvious logic problems Delete obviously synonymous and wordy material in a sentence Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”) Determine the clearest and most logical conjunction to link clauses Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence Identify and correct ambiguous pronoun references Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”) Correct vague and wordy or clumsy and confusing writing containing sophisticated language Delete redundant material that involves subtle concepts or that is redundant in terms of the paragraph as a whole</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language: Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation: Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT College Readiness Standards English and Writing
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
L.9–10.1a. Use parallel structure.	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation:</p> <p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p> <p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT College Readiness Standards English and Reading EXPLORE
Language [L]		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood.	Selected ACT College Readiness Standards in English: Sentence Structure and Formation: Decide the appropriate verb tense and voice by considering the meaning of the entire sentence Conventions of Usage: Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i>	
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. b. Use an ellipsis to indicate an omission. c. Spell correctly.	Selected ACT College Readiness Standards in English: Sentence Structure and Formation: Use conjunctions or punctuation to join simple clauses Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences Conventions of Punctuation: Delete commas that disturb the sentence flow (e.g., between modifier and modified element) Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause) Use punctuation to set off complex parenthetical phrases Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)	
Knowledge of Language		
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).	Selected ACT College Readiness Standards in English: Sentence Structure and Formation: Decide the appropriate verb tense and voice by considering the meaning of the entire sentence	
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	Selected ACT College Readiness Standards in Reading: Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT College Readiness Standards English and Reading EXPLORE
Language [L]	
Vocabulary Acquisition and Use	
<p>5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</p> <ul style="list-style-type: none"> a. Interpret figures of speech (e.g. verbal irony, puns) in context. b. Use the relationship between particular words to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., <i>bullheaded</i>, <i>willful</i>, <i>firm</i>, <i>persistent</i>, <i>resolute</i>). 	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p>
<p>6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy:</p> <p>Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data:</p> <p>Understand basic scientific terminology</p> <p>Find basic information in a brief body of text</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT College Readiness Standards English and Reading EXPLORE/PLAN
Language [L]		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.		<i>Selected ACT College Readiness Standards in English:</i> Sentence Structure and Formation: Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers) Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs
a. Use parallel structure.		
b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.		
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.		<i>Selected ACT College Readiness Standards in English:</i> Conventions of Punctuation: Recognize inappropriate uses of colons and semicolons Use a semicolon to indicate a relationship between closely related independent clauses
a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.		
b. Use a colon to introduce a list or quotation.		
c. Spell correctly.		
Knowledge of Language		
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.		<i>Selected ACT College Readiness Standards in English:</i> Word Choice in Terms of Style, Tone, Clarity, and Economy: Revise sentences to correct awkward and confusing arrangements of sentence elements Revise vague nouns and pronouns that create obvious logic problems Delete obviously synonymous and wordy material in a sentence Revise expressions that deviate from the style of an essay Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”) Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Determine the clearest and most logical conjunction to link clauses Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence Identify and correct ambiguous pronoun references Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”) Correct vague and wordy or clumsy and confusing writing containing sophisticated language <i>Selected ACT College Readiness Standards in Reading:</i> Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts
a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., <i>MLA Handbook</i> , <i>Turabian's Manual for Writers</i>) appropriate for the discipline and writing type.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards English and Reading EXPLORE/PLAN
Language [L]	
Vocabulary Acquisition and Use	
<p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.</p> <ul style="list-style-type: none"> a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., <i>analyze, analysis, analytical; advocate, advocacy</i>). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary). 	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p>
<p>5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</p> <ul style="list-style-type: none"> a. Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations. 	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT College Readiness Standards English and Reading EXPLORE/PLAN
Language	[L]
Vocabulary Acquisition and Use	
<p>6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Writing ACT
Language [L]	
Conventions of Standard English	
<p>1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <p>a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.</p> <p>b. Resolve issues of complex or contested usage, consulting references (e.g., <i>Merriam-Webster's Dictionary of English Usage</i>, <i>Garner's Modern American Usage</i>) as needed.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p> <p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p> <p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p> <p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p>Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors using precise and varied vocabulary using a variety of kinds of sentence structures to vary pace and to support meaning
<p>2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>a. Observe hyphenation conventions.</p> <p>b. Spell correctly.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Sentence Structure and Formation:</p> <p>Use conjunctions or punctuation to join simple clauses</p> <p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Conventions of Punctuation:</p> <p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p> <p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p> <p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p> <p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Writing ACT
Language [L]	
Conventions of Standard English	
	<p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p> <p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p> <p>Use a colon to introduce an example or an elaboration</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning
Knowledge of Language	
<p>3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.</p> <p>a. Vary syntax for effect, consulting references (e.g., Tufte's <i>Artful Sentences</i>) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.</p>	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p><i>Selected ACT College Readiness Standards in Writing:</i></p> <p>Using Language:</p> <p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Writing ACT
Language [L]	
Vocabulary Acquisition and Use	
<p>4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.</p> <ul style="list-style-type: none"> a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., <i>conceive</i>, <i>conception</i>, <i>conceivable</i>). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary). 	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Conventions of Usage:</p> <p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p> <p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p> <p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p>
<p>5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</p> <ul style="list-style-type: none"> a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations. 	<p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Supporting Details:</p> <p>Recognize a clear function of a part of an uncomplicated passage</p> <p>Make simple inferences about how details are used in passages</p> <p>Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages</p> <p>Use details from different sections of some complex informational passages to support a specific point or argument</p> <p>Understand the function of a part of a passage when the function is subtle or complex</p> <p>Meanings of Words:</p> <p>Understand the implication of a familiar word or phrase and of simple descriptive language</p> <p>Use context to understand basic figurative language</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages</p> <p>Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages</p> <p>Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts</p> <p>Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT College Readiness Standards Reading and Writing ACT
Language [L]	
Vocabulary Acquisition and Use	
<p>6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.</p>	<p><i>Selected ACT College Readiness Standards in English:</i></p> <p>Word Choice in Terms of Style, Tone, Clarity, and Economy: Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay</p> <p><i>Selected ACT College Readiness Standards in Reading:</i></p> <p>Meanings of Words: Understand the implication of a familiar word or phrase and of simple descriptive language Use context to understand basic figurative language Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage</p> <p><i>Selected ACT College Readiness Standards in Writing:</i> Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning <p><i>Selected ACT College Readiness Standards in Science:</i></p> <p>Interpretation of Data: Understand basic scientific terminology Find basic information in a brief body of text</p>



Appendix B

Table Comparing

**ACT's College Readiness Standards for EXPLORE, PLAN, and the ACT
with the**

**Common Core State Standards for
Mathematics**

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT College Readiness Standards Mathematics
<p>1. Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	<p><i>Most of the College Readiness Standards imply some degree of perseverance, and all are related to simplifying a problem or breaking it into simpler pieces. Competence in this Mathematical Practice is explicit in the following standards.</i></p> <p>Basic Operations & Applications:</p> <p>Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)</p> <p>Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)</p> <p>Probability, Statistics, & Data Analysis:</p> <p>Translate from one representation of data to another (e.g., a bar graph to a circle graph)</p> <p>Use Venn diagrams in counting</p> <p>Interpret and use information from figures, tables, and graphs</p> <p>Compute a probability when the event and/or sample space are not given or obvious</p> <p>Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Numbers: Concepts & Properties:</p> <p>Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers</p> <p>Expressions, Equations, & Inequalities:</p> <p>Manipulate expressions and equations</p> <p>Write expressions, equations, and inequalities for common algebra settings</p> <p>Write expressions that require planning and/or manipulating to accurately model a situation</p> <p>Write equations and inequalities that require planning, manipulating, and/or solving</p> <p>Graphical Representations:</p> <p>Interpret and use information from graphs in the coordinate plane</p> <p>Solve problems integrating multiple algebraic and/or geometric concepts</p> <p>Analyze and draw conclusions based on information from graphs in the coordinate plane</p> <p>Properties of Plane Figures:</p> <p>Draw conclusions based on a set of conditions</p> <p>Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas</p> <p>Measurement:</p> <p>Use relationships involving area, perimeter, and volume of geometric figures to compute another measure</p> <p>Use scale factors to determine the magnitude of a size change</p> <p>Compute the area of composite geometric figures when planning or visualization is required</p>
<p>2. Reason abstractly and quantitatively.</p> <p>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>	<p><i>All of the College Readiness Standards involve applying mathematical skills and reasoning to a wide range of contexts and so would rightly be listed here to illustrate alignment with this Mathematical Practice. Competence in decontextualizing, reasoning abstractly, and contextualizing is illustrated in the following selection.</i></p> <p>Basic Operations & Applications:</p> <p>Solve problems in one or two steps using whole numbers</p> <p>Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)</p> <p>Solve word problems containing several rates, proportions, or percentages</p> <p>Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)</p>

Common Core State Standards for Mathematics <i>Standards for Mathematical Practice</i>	ACT College Readiness Standards Mathematics
	<p>Probability, Statistics, & Data Analysis: Calculate the average of a list of numbers Translate from one representation of data to another (e.g., a bar graph to a circle graph) Use Venn diagrams in counting Apply counting techniques Compute a probability when the event and/or sample space are not given or obvious Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Numbers: Concepts & Properties: Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor Apply number properties involving prime factorization Apply number properties involving even/odd numbers and factors/multiples Apply number properties involving positive/negative numbers Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers</p> <p>Expressions, Equations, & Inequalities: Exhibit knowledge of basic expressions (e.g., identify an expression for a total as $b + g$) Solve real-world problems using first-degree equations Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Manipulate expressions and equations Write expressions, equations, and inequalities for common algebra settings Write expressions that require planning and/or manipulating to accurately model a situation Write equations and inequalities that require planning, manipulating, and/or solving</p> <p>Graphical Representations: Determine the slope of a line from points or equations Interpret and use information from graphs in the coordinate plane Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Solve problems integrating multiple algebraic and/or geometric concepts Analyze and draw conclusions based on information from graphs in the coordinate plane</p> <p>Properties of Plane Figures: Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°) Use several angle properties to find an unknown angle measure Use the Pythagorean theorem Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle</p> <p>Measurement: Estimate or calculate the length of a line segment based on other lengths given on a geometric figure Use geometric formulas when all necessary information is given Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Use scale factors to determine the magnitude of a size change Compute the area of composite geometric figures when planning or visualization is required</p>

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT College Readiness Standards Mathematics
	Functions: Evaluate quadratic functions, expressed in function notation, at integer values Evaluate composite functions at integer values Apply basic trigonometric ratios to solve right-triangle problems Write an expression for the composite of two simple functions Use trigonometric concepts and basic identities to solve problems Match graphs of basic trigonometric functions with their equations
3. Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, standards for mathematical practice communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	<i>All of the College Readiness Standards imply reasoning, some at higher levels than others. The following standards show high-level connections to this Mathematical Practice.</i> Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Analyze and draw conclusions based on information from figures, tables, and graphs Numbers: Concepts & Properties: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers Expressions, Equations, & Inequalities: Write expressions that require planning and/or manipulating to accurately model a situation Write equations and inequalities that require planning, manipulating, and/or solving Graphical Representations: Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Analyze and draw conclusions based on information from graphs in the coordinate plane Properties of Plane Figures: Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
4. Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	<i>All of the College Readiness Standards represent mathematics that applies to modeling and so should be considered as included here. The following selection emphasizes higher-order skills needed for modeling.</i> Basic Operations & Applications: Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Solve word problems containing several rates, proportions, or percentages Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings) Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Use Venn diagrams in counting Calculate or use a weighted average Interpret and use information from figures, tables, and graphs Apply counting techniques Compute a probability when the event and/or sample space are not given or obvious Analyze and draw conclusions based on information from figures, tables, and graphs Exhibit knowledge of conditional and joint probability

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT College Readiness Standards Mathematics
	<p>Expressions, Equations, & Inequalities: Solve real-world problems using first-degree equations Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings Write expressions that require planning and/or manipulating to accurately model a situation</p> <p>Graphical Representations: Interpret and use information from graphs in the coordinate plane Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle) Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Solve problems integrating multiple algebraic and/or geometric concepts Analyze and draw conclusions based on information from graphs in the coordinate plane</p> <p>Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Use the Pythagorean theorem Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas</p> <p>Measurement: Compute the perimeter of simple composite geometric figures with unknown side lengths Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Use scale factors to determine the magnitude of a size change Compute the area of composite geometric figures when planning or visualization is required</p> <p>Functions: Apply basic trigonometric ratios to solve right-triangle problems Use trigonometric concepts and basic identities to solve problems</p>
<p>5. Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	<p><i>The College Readiness Standards emphasize many of the decisions students must make about approaching problems, although technology is not covered explicitly.</i></p>

Common Core State Standards for Mathematics <i>Standards for Mathematical Practice</i>	ACT College Readiness Standards Mathematics
<p>6. Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>	<p><i>All of the College Readiness Standards require attention to precision, some to a higher degree than others. This Mathematical Practice is particularly important in connection with the following standards.</i></p> <p>Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)</p> <p>Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Distinguish between mean, median, and mode for a list of numbers Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Numbers: Concepts & Properties: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers</p> <p>Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings</p> <p>Graphical Representations: Analyze and draw conclusions based on information from graphs in the coordinate plane</p> <p>Properties of Plane Figures: Draw conclusions based on a set of conditions</p>
<p>7. Look for and make use of structure.</p> <p>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.</p>	<p><i>Most of the College Readiness Standards imply making use of structure, some to a higher degree than others. The following standards make competence in this Mathematical Practice explicit.</i></p> <p>Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)</p> <p>Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Expressions, Equations, & Inequalities: Manipulate expressions and equations Write expressions that require planning and/or manipulating to accurately model a situation Write equations and inequalities that require planning, manipulating, and/or solving</p> <p>Graphical Representations: Interpret and use information from graphs in the coordinate plane Match number line graphs with solution sets of linear inequalities Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle) Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$</p> <p>Properties of Plane Figures: Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas</p>

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT College Readiness Standards Mathematics
	Measurement: Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Compute the area of composite geometric figures when planning or visualization is required
<p>8. Look for and express regularity in repeated reasoning.</p> <p>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1,2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p>	<p><i>Most of the College Readiness Standards represent concepts and skills learned through repeated reasoning. High levels of competence with this Mathematical Practice are apparent in the following standards.</i></p> <p>Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Solve word problems containing several rates, proportions, or percentages Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)</p> <p>Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Apply counting techniques Compute a probability when the event and/or sample space are not given or obvious Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Numbers: Concepts & Properties: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers</p> <p>Expressions, Equations, & Inequalities: Manipulate expressions and equations Write expressions, equations, and inequalities for common algebra settings Write expressions that require planning and/or manipulating to accurately model a situation Write equations and inequalities that require planning, manipulating, and/or solving</p> <p>Graphical Representations: Solve problems integrating multiple algebraic and/or geometric concepts Analyze and draw conclusions based on information from graphs in the coordinate plane</p> <p>Properties of Plane Figures: Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle</p> <p>Measurement: Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Compute the area of composite geometric figures when planning or visualization is required</p>

Common Core State Standards for Mathematics Grade 8		ACT College Readiness Standards Mathematics EXPLORE	
The Number System		[8.NS]	
Know that there are numbers that are not rational, and approximate them by rational numbers.			
1.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	Numbers: Concepts & Properties: Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor	
2.	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	Basic Operations & Applications: Solve some routine two-step arithmetic problems Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Numbers: Concepts & Properties: Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor	
Expressions and Equations		[8.EE]	
Work with radicals and integer exponents.			
1.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	Numbers: Concepts & Properties: Work with scientific notation Work problems involving positive integer exponents	
2.	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	Numbers: Concepts & Properties: Work with squares and square roots of numbers Work with cubes and cube roots of numbers	
3.	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 , and determine that the world population is more than 20 times larger.	Numbers: Concepts & Properties: Work with scientific notation	
4.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Numbers: Concepts & Properties: Work with scientific notation	
Understand the connections between proportional relationships, lines, and linear equations.			
5.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	Graphical Representations: Locate points in the coordinate plane Exhibit knowledge of slope Match linear graphs with their equations	
6.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .	Graphical Representations: Match linear graphs with their equations	

Common Core State Standards for Mathematics Grade 8		ACT College Readiness Standards Mathematics EXPLORE
Expressions and Equations [8.EE]		
Analyze and solve linear equations and pairs of simultaneous linear equations.		
7. Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.		Expressions, Equations, & Inequalities: Solve routine first-degree equations
8. Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i> c. Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i>		Expressions, Equations, & Inequalities: Find solutions to systems of linear equations
Functions [8.F]		
Define, evaluate, and compare functions.		
1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.		Graphical Representations: Locate points in the coordinate plane
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i>		Graphical Representations: Locate points in the coordinate plane
3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i>		Graphical Representations: Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane
Use functions to model relationships between quantities.		
4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.		Expressions, Equations, & Inequalities: Solve real-world problems using first-degree equations Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Graphical Representations: Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane

Common Core State Standards for Mathematics Grade 8	ACT College Readiness Standards Mathematics EXPLORE
Functions [8.F]	
Use functions to model relationships between quantities.	
5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Graphical Representations: Interpret and use information from graphs in the coordinate plane
Geometry [8.G]	
Understand congruence and similarity using physical models, transparencies, or geometry software.	
1. Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.	Properties of Plane Figures: Exhibit some knowledge of the angles associated with parallel lines
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles
3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Graphical Representations: Locate points in the coordinate plane
4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i>	Properties of Plane Figures: Exhibit some knowledge of the angles associated with parallel lines Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°)
Understand and apply the Pythagorean Theorem.	
6. Explain a proof of the Pythagorean Theorem and its converse.	Properties of Plane Figures: Use the Pythagorean theorem
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Properties of Plane Figures: Recognize Pythagorean triples Use the Pythagorean theorem
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Graphical Representations: Use the distance formula Properties of Plane Figures: Recognize Pythagorean triples Use the Pythagorean theorem

Common Core State Standards for Mathematics Grade 8		ACT College Readiness Standards Mathematics EXPLORE	
Geometry		[8.G]	
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.			
9.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Measurement: Use geometric formulas when all necessary information is given	
Statistics and Probability		[8.SP]	
Investigate patterns of association in bivariate data.			
1.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Graphical Representations: Interpret and use information from graphs in the coordinate plane	
2.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Graphical Representations: Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane	
3.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i>	Graphical Representations: Determine the slope of a line from points or equations Interpret and use information from graphs in the coordinate plane	
4.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i>	Probability, Statistics, & Data Analysis: Read tables and graphs Perform computations on data from tables and graphs Translate from one representation of data to another (e.g., a bar graph to a circle graph) Manipulate data from tables and graphs Interpret and use information from figures, tables, and graphs	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Number and Quantity		
The Real Number System		[N-RN]
Extend the properties of exponents to rational exponents.		
1.	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. <i>For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.</i>	Numbers: Concepts & Properties: Apply rules of exponents
2.	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Numbers: Concepts & Properties: Apply rules of exponents
Use properties of rational and irrational numbers.		
3.	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	Numbers: Concepts & Properties: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers
Quantities*		[N-Q]
Reason quantitatively and use units to solve problems.		
1.	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	Basic Operations & Applications: Perform common conversions (e.g., inches to feet or hours to minutes) Solve some routine two-step arithmetic problems Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Probability, Statistics, & Data Analysis: Read tables and graphs Translate from one representation of data to another (e.g., a bar graph to a circle graph) Interpret and use information from figures, tables, and graphs Expressions, Equations, & Inequalities: Solve real-world problems using first-degree equations Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Graphical Representations: Interpret and use information from graphs in the coordinate plane
2.	Define appropriate quantities for the purpose of descriptive modeling.	Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings
3.	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Number and Quantity		
The Complex Number System		[N-CN]
Perform arithmetic operations with complex numbers.		
1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.	Numbers: Concepts & Properties: Exhibit some knowledge of the complex numbers	
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	Numbers: Concepts & Properties: Multiply two complex numbers	
3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.	Numbers: Concepts & Properties: Apply properties of complex numbers	
Represent complex numbers and their operations on the complex plane.		
4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.	Numbers: Concepts & Properties: Apply properties of complex numbers	
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}i)^3 = 8$ because $(-1 + \sqrt{3}i)$ has modulus 2 and argument 120° .	Numbers: Concepts & Properties: Apply properties of complex numbers	
6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.	Numbers: Concepts & Properties: Apply properties of complex numbers Graphical Representations: Find the midpoint of a line segment	
Use complex numbers in polynomial identities and equations.		
7. Solve quadratic equations with real coefficients that have complex solutions.	Numbers: Concepts & Properties: Exhibit some knowledge of the complex numbers Expressions, Equations, & Inequalities: Solve quadratic equations	
8. (+) Extend polynomial identities to the complex numbers. For example, rewrite $x^2 + 4$ as $(x + 2i)(x - 2i)$.	Numbers: Concepts & Properties: Multiply two complex numbers Apply properties of complex numbers Expressions, Equations, & Inequalities: Manipulate expressions and equations Solve quadratic equations	
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.	Numbers: Concepts & Properties: Multiply two complex numbers Apply properties of complex numbers Expressions, Equations, & Inequalities: Solve quadratic equations	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Number and Quantity			
Vector and Matrix Quantities		[N-VM]	
Represent and model with vector quantities.			
1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., \mathbf{v} , $ \mathbf{v} $, $\ \mathbf{v}\ $, v).		Graphical Representations: Interpret and use information from graphs in the coordinate plane	
2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.		Graphical Representations: Interpret and use information from graphs in the coordinate plane	
3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.		Expressions, Equations, & Inequalities: Manipulate expressions and equations Graphical Representations: Interpret and use information from graphs in the coordinate plane Properties of Plane Figures: Recognize Pythagorean triples Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Functions: Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths Apply basic trigonometric ratios to solve right-triangle problems Use trigonometric concepts and basic identities to solve problems Exhibit knowledge of unit circle trigonometry	
Perform operations on vectors.			
4. (+) Add and subtract vectors. a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum. c. Understand vector subtraction $\mathbf{v} - \mathbf{w}$ as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of \mathbf{w} , with the same magnitude as \mathbf{w} and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.		Expressions, Equations, & Inequalities: Manipulate expressions and equations Graphical Representations: Interpret and use information from graphs in the coordinate plane	
5. (+) Multiply a vector by a scalar. a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$. b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $\ c\mathbf{v}\ = c \mathbf{v} $. Compute the direction of $c\mathbf{v}$ knowing that when $ c \mathbf{v} \neq 0$, the direction of $c\mathbf{v}$ is either along \mathbf{v} (for $c > 0$) or against \mathbf{v} (for $c < 0$).		Expressions, Equations, & Inequalities: Manipulate expressions and equations Graphical Representations: Interpret and use information from graphs in the coordinate plane	
Perform operations on matrices and use matrices in applications.			
6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.		Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph)	
7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.		Expressions, Equations, & Inequalities: Manipulate expressions and equations	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Number and Quantity		
Vector and Matrix Quantities		[N-VM]
Perform operations on matrices and use matrices in applications.		
8. (+) Add, subtract, and multiply matrices of appropriate dimensions.		Expressions, Equations, & Inequalities: Manipulate expressions and equations
9. (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.		Expressions, Equations, & Inequalities: Manipulate expressions and equations
10. (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.		Expressions, Equations, & Inequalities: Manipulate expressions and equations
11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.		Expressions, Equations, & Inequalities: Manipulate expressions and equations Graphical Representations: Solve problems integrating multiple algebraic and/or geometric concepts
12. (+) Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.		Graphical Representations: Solve problems integrating multiple algebraic and/or geometric concepts

Common Core State Standards for Mathematics High School	ACT College Readiness Standards Mathematics PLAN/ACT
Algebra	
Seeing Structure in Expressions [A-SSE]	
Interpret the structure of expressions	
<p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1 + r)^n$ as the product of P and a factor not depending on P.</p>	<p>Basic Operations & Applications:</p> <p>Solve routine one-step arithmetic problems (using whole numbers, fractions, and decimals) such as single-step percent</p> <p>Solve some routine two-step arithmetic problems</p> <p>Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average</p> <p>Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)</p> <p>Expressions, Equations, & Inequalities:</p> <p>Solve one-step equations having integer or decimal answers</p> <p>Combine like terms (e.g., $2x + 5x$)</p> <p>Solve routine first-degree equations</p> <p>Perform straightforward word-to-symbol translations</p> <p>Solve real-world problems using first-degree equations</p> <p>Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions)</p> <p>Manipulate expressions and equations</p> <p>Write expressions, equations, and inequalities for common algebra settings</p>
<p>2. Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.</p>	<p>Expressions, Equations, & Inequalities:</p> <p>Combine like terms (e.g., $2x + 5x$)</p> <p>Add and subtract simple algebraic expressions</p> <p>Multiply two binomials</p> <p>Add, subtract, and multiply polynomials</p> <p>Factor simple quadratics (e.g., the difference of squares and perfect square trinomials)</p> <p>Manipulate expressions and equations</p>
Write expressions in equivalent forms to solve problems	
<p>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*</p> <p>a. Factor a quadratic expression to reveal the zeros of the function it defines.</p> <p>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.</p> <p>c. Use the properties of exponents to transform expressions for exponential functions. For example, the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.</p>	<p>Numbers: Concepts & Properties:</p> <p>Apply rules of exponents</p> <p>Expressions, Equations, & Inequalities:</p> <p>Factor simple quadratics (e.g., the difference of squares and perfect square trinomials)</p> <p>Manipulate expressions and equations</p> <p>Solve quadratic equations</p>
<p>4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.*</p>	<p>Numbers: Concepts & Properties:</p> <p>Exhibit knowledge of logarithms and geometric sequences</p> <p>Expressions, Equations, & Inequalities:</p> <p>Manipulate expressions and equations</p> <p>Write equations and inequalities that require planning, manipulating, and/or solving</p>

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Algebra		
Arithmetic with Polynomials and Rational Expressions		[A-APR]
Perform arithmetic operations on polynomials		
1.	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Expressions, Equations, & Inequalities: Add, subtract, and multiply polynomials Write expressions that require planning and/or manipulating to accurately model a situation
Understand the relationship between zeros and factors of polynomials		
2.	Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a , the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.	Expressions, Equations, & Inequalities: Manipulate expressions and equations Write equations and inequalities that require planning, manipulating, and/or solving
3.	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	Graphical Representations: Interpret and use information from graphs in the coordinate plane Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$
Use polynomial identities to solve problems		
4.	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.	Expressions, Equations, & Inequalities: Manipulate expressions and equations
5.	(+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n , where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.	Numbers: Concepts & Properties: Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers Expressions, Equations, & Inequalities: Write expressions that require planning and/or manipulating to accurately model a situation
Rewrite rational expressions		
6.	Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.	Expressions, Equations, & Inequalities: Manipulate expressions and equations
7.	(+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	Expressions, Equations, & Inequalities: Manipulate expressions and equations Write expressions that require planning and/or manipulating to accurately model a situation

Common Core State Standards for Mathematics High School	ACT College Readiness Standards Mathematics PLAN/ACT
Algebra	
Creating Equations* [A-CED]	
Create equations that describe numbers or relationships	
<p>1. Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></p>	<p>Expressions, Equations, & Inequalities: Evaluate algebraic expressions by substituting integers for unknown quantities Solve routine first-degree equations Perform straightforward word-to-symbol translations Solve real-world problems using first-degree equations Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Identify solutions to simple quadratic equations Factor simple quadratics (e.g., the difference of squares and perfect square trinomials) Solve first-degree inequalities that do not require reversing the inequality sign Write expressions, equations, and inequalities for common algebra settings Solve linear inequalities that require reversing the inequality sign Solve quadratic equations Write equations and inequalities that require planning, manipulating, and/or solving Solve simple absolute value inequalities Graphical Representations: Locate points in the coordinate plane Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane Match number line graphs with solution sets of linear inequalities Match number line graphs with solution sets of simple quadratic inequalities</p>
<p>2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p>	<p>Expressions, Equations, & Inequalities: Evaluate algebraic expressions by substituting integers for unknown quantities Write expressions, equations, and inequalities for common algebra settings Graphical Representations: Locate points in the coordinate plane Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane</p>
<p>3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</i></p>	<p>Expressions, Equations, & Inequalities: Evaluate algebraic expressions by substituting integers for unknown quantities Solve first-degree inequalities that do not require reversing the inequality sign Write expressions, equations, and inequalities for common algebra settings Solve linear inequalities that require reversing the inequality sign Graphical Representations: Locate points in the coordinate plane Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane</p>
<p>4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law $V = IR$ to highlight resistance R.</i></p>	<p>Expressions, Equations, & Inequalities: Manipulate expressions and equations</p>

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Algebra			
Reasoning with Equations and Inequalities		[A-REI]	
Understand solving equations as a process of reasoning and explain the reasoning			
1.	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Expressions, Equations, & Inequalities: Manipulate expressions and equations	
2.	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	Expressions, Equations, & Inequalities: Write expressions, equations, and inequalities for common algebra settings Write equations and inequalities that require planning, manipulating, and/or solving	
Solve equations and inequalities in one variable			
3.	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Expressions, Equations, & Inequalities: Solve routine first-degree equations Solve first-degree inequalities that do not require reversing the inequality sign Manipulate expressions and equations Solve linear inequalities that require reversing the inequality sign	
4.	Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .	Numbers: Concepts & Properties: Exhibit some knowledge of the complex numbers Expressions, Equations, & Inequalities: Identify solutions to simple quadratic equations Factor simple quadratics (e.g., the difference of squares and perfect square trinomials) Manipulate expressions and equations Write equations and inequalities that require planning, manipulating, and/or solving	
Solve systems of equations			
5.	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	Expressions, Equations, & Inequalities: Find solutions to systems of linear equations Write equations and inequalities that require planning, manipulating, and/or solving	
6.	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	Expressions, Equations, & Inequalities: Find solutions to systems of linear equations	
7.	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.	Expressions, Equations, & Inequalities: Solve quadratic equations Write equations and inequalities that require planning, manipulating, and/or solving	
8.	(+) Represent a system of linear equations as a single matrix equation in a vector variable.	Expressions, Equations, & Inequalities: Manipulate expressions and equations	
9.	(+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).	Expressions, Equations, & Inequalities: Manipulate expressions and equations	
Represent and solve equations and inequalities graphically			
10.	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	Graphical Representations: Locate points in the coordinate plane Interpret and use information from graphs in the coordinate plane	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Algebra			
Reasoning with Equations and Inequalities		[A-REI]	
Represent and solve equations and inequalities graphically			
11.	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*	Graphical Representations: Interpret and use information from graphs in the coordinate plane	
12.	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Expressions, Equations, & Inequalities: Identify solutions to simple quadratic equations Manipulate expressions and equations	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Functions			
Interpreting Functions		[F-IF]	
Understand the concept of a function and use function notation			
1.	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.	Graphical Representations: Interpret and use information from graphs in the coordinate plane Functions: Evaluate quadratic functions, expressed in function notation, at integer values	
2.	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	Expressions, Equations, & Inequalities: Manipulate expressions and equations Functions: Evaluate quadratic functions, expressed in function notation, at integer values Evaluate polynomial functions, expressed in function notation, at integer values	
3.	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. <i>For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n + 1) = f(n) + f(n - 1)$ for $n \geq 1$.</i>	Numbers: Concepts & Properties: Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor Exhibit knowledge of logarithms and geometric sequences Expressions, Equations, & Inequalities: Write expressions, equations, and inequalities for common algebra settings Functions: Evaluate polynomial functions, expressed in function notation, at integer values	
Interpret functions that arise in applications in terms of the context			
4.	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</i>	Graphical Representations: Interpret and use information from graphs in the coordinate plane	
5.	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*</i>	Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings Write equations and inequalities that require planning, manipulating, and/or solving Graphical Representations: Interpret and use information from graphs in the coordinate plane	
6.	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*	Probability, Statistics, & Data Analysis: Manipulate data from tables and graphs Graphical Representations: Exhibit knowledge of slope Determine the slope of a line from points or equations Interpret and use information from graphs in the coordinate plane Functions: Evaluate quadratic functions, expressed in function notation, at integer values Evaluate polynomial functions, expressed in function notation, at integer values	

Common Core State Standards for Mathematics High School	ACT College Readiness Standards Mathematics PLAN/ACT
Functions	
Interpreting Functions [F-IF]	
Analyze functions using different representations	
<p>7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.</p> <p>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.</p> <p>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</p> <p>d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.</p> <p>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p>	<p>Numbers: Concepts & Properties: Exhibit knowledge of logarithms and geometric sequences</p> <p>Graphical Representations: Locate points in the coordinate plane Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle) Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$</p> <p>Functions: Match graphs of basic trigonometric functions with their equations</p>
<p>8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.</p> <p>b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.</p>	<p>Numbers: Concepts & Properties: Apply rules of exponents</p> <p>Expressions, Equations, & Inequalities: Factor simple quadratics (e.g., the difference of squares and perfect square trinomials) Manipulate expressions and equations</p> <p>Graphical Representations: Interpret and use information from graphs in the coordinate plane</p>
<p>9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</p>	<p>Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs</p> <p>Expressions, Equations, & Inequalities: Evaluate algebraic expressions by substituting integers for unknown quantities Manipulate expressions and equations</p> <p>Graphical Representations: Interpret and use information from graphs in the coordinate plane</p>

Common Core State Standards for Mathematics High School	ACT College Readiness Standards Mathematics PLAN/ACT
Functions	
Building Functions	
[F-BF]	
Build a function that models a relationship between two quantities	
<p>1. Write a function that describes a relationship between two quantities.*</p> <p>a. Determine an explicit expression, a recursive process, or steps for calculation from a context.</p> <p>b. Combine standard function types using arithmetic operations. <i>For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</i></p> <p>c. (+) Compose functions. <i>For example, if $T(y)$ is the temperature in the atmosphere as a function of height, and $h(t)$ is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.</i></p>	<p>Expressions, Equations, & Inequalities:</p> <p>Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions)</p> <p>Write expressions, equations, and inequalities for common algebra settings</p> <p>Functions:</p> <p>Evaluate composite functions at integer values</p> <p>Write an expression for the composite of two simple functions</p>
<p>2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*</p>	<p>Numbers: Concepts & Properties:</p> <p>Exhibit knowledge of logarithms and geometric sequences</p> <p>Expressions, Equations, & Inequalities:</p> <p>Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions)</p> <p>Manipulate expressions and equations</p> <p>Write expressions, equations, and inequalities for common algebra settings</p> <p>Functions:</p> <p>Evaluate quadratic functions, expressed in function notation, at integer values</p> <p>Evaluate polynomial functions, expressed in function notation, at integer values</p>
Build new functions from existing functions	
<p>3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. <i>Include recognizing even and odd functions from their graphs and algebraic expressions for them.</i></p>	<p>Graphical Representations:</p> <p>Interpret and use information from graphs in the coordinate plane</p> <p>Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle)</p> <p>Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$</p>
<p>4. Find inverse functions.</p> <p>a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. <i>For example, $f(x) = 2x^3$ or $f(x) = (x + 1)/(x - 1)$ for $x \neq 1$.</i></p> <p>b. (+) Verify by composition that one function is the inverse of another.</p> <p>c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.</p> <p>d. (+) Produce an invertible function from a non-invertible function by restricting the domain.</p>	<p>Graphical Representations:</p> <p>Interpret and use information from graphs in the coordinate plane</p> <p>Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$</p> <p>Functions:</p> <p>Evaluate composite functions at integer values</p> <p>Write an expression for the composite of two simple functions</p>
<p>5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.</p>	<p>Numbers: Concepts & Properties:</p> <p>Exhibit knowledge of logarithms and geometric sequences</p>

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Functions			
Linear, Quadratic, and Exponential Models*		[F-LE]	
Construct and compare linear, quadratic, and exponential models and solve problems			
1.	Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Numbers: Concepts & Properties: Exhibit knowledge of logarithms and geometric sequences Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings Graphical Representations: Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane	
2.	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Numbers: Concepts & Properties: Exhibit knowledge of logarithms and geometric sequences Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings Graphical Representations: Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane	
3.	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Graphical Representations: Interpret and use information from graphs in the coordinate plane	
4.	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.	Numbers: Concepts & Properties: Exhibit knowledge of logarithms and geometric sequences	
Interpret expressions for functions in terms of the situation they model			
5.	Interpret the parameters in a linear or exponential function in terms of a context.	Expressions, Equations, & Inequalities: Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions) Write expressions, equations, and inequalities for common algebra settings	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Functions			
Trigonometric Functions		[F-TF]	
Extend the domain of trigonometric functions using the unit circle			
1.	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	Functions:	Use trigonometric concepts and basic identities to solve problems
2.	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	Functions:	Exhibit knowledge of unit circle trigonometry
3.	(+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x , where x is any real number.	Functions:	Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths Exhibit knowledge of unit circle trigonometry
4.	(+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.	Functions:	Exhibit knowledge of unit circle trigonometry
Model periodic phenomena with trigonometric functions			
5.	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*	Functions:	Match graphs of basic trigonometric functions with their equations
6.	(+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.	Functions:	Use trigonometric concepts and basic identities to solve problems
7.	(+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*	Functions:	Use trigonometric concepts and basic identities to solve problems
Prove and apply trigonometric identities			
8.	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.	Functions:	Use trigonometric concepts and basic identities to solve problems
9.	(+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.	Properties of Plane Figures:	Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
		Functions:	Use trigonometric concepts and basic identities to solve problems

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Geometry		
Congruence		[G-CO]
Experiment with transformations in the plane		
1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Properties of Plane Figures: Exhibit some knowledge of the angles associated with parallel lines Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°)	
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	Graphical Representations: Interpret and use information from graphs in the coordinate plane Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Graphical Representations: Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Solve problems integrating multiple algebraic and/or geometric concepts Properties of Plane Figures: Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas	
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	Graphical Representations: Interpret and use information from graphs in the coordinate plane Properties of Plane Figures: Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas	
Understand congruence in terms of rigid motions		
6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Graphical Representations: Interpret and use information from graphs in the coordinate plane Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Draw conclusions based on a set of conditions	
8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Draw conclusions based on a set of conditions	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Geometry		
Congruence		[G-CO]
Prove geometric theorems		
9.	Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90° , 180° , and 360°) Use several angle properties to find an unknown angle measure Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
10.	Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90° , 180° , and 360°) Use several angle properties to find an unknown angle measure Use properties of isosceles triangles Apply properties of 30° - 60° - 90° , 45° - 45° - 90° , similar, and congruent triangles Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
11.	Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90° , 180° , and 360°) Use several angle properties to find an unknown angle measure Use properties of isosceles triangles Apply properties of 30° - 60° - 90° , 45° - 45° - 90° , similar, and congruent triangles Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
Make geometric constructions		
12.	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90° , 180° , and 360°) Use several angle properties to find an unknown angle measure Recognize Pythagorean triples Use properties of isosceles triangles Apply properties of 30° - 60° - 90° , 45° - 45° - 90° , similar, and congruent triangles Use the Pythagorean theorem Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
13.	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	Properties of Plane Figures: Use relationships among angles, arcs, and distances in a circle

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Geometry		
Similarity, Right Triangles, and Trigonometry		[G-SRT]
Understand similarity in terms of similarity transformations		
1. Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	Graphical Representations: Interpret and use information from graphs in the coordinate plane	
2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Use several angle properties to find an unknown angle measure Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
Prove theorems involving similarity		
4. Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.	Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Use several angle properties to find an unknown angle measure Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Use the Pythagorean theorem	
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
Define trigonometric ratios and solve problems involving right triangles		
6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Functions: Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths	
7. Explain and use the relationship between the sine and cosine of complementary angles.	Functions: Use trigonometric concepts and basic identities to solve problems	
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*	Functions: Apply basic trigonometric ratios to solve right-triangle problems	
Apply trigonometry to general triangles		
9. (+) Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	Functions: Apply basic trigonometric ratios to solve right-triangle problems Use trigonometric concepts and basic identities to solve problems	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Geometry		
Similarity, Right Triangles, and Trigonometry		[G-SRT]
Apply trigonometry to general triangles		
10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.	Properties of Plane Figures: Draw conclusions based on a set of conditions Functions: Apply basic trigonometric ratios to solve right-triangle problems Use trigonometric concepts and basic identities to solve problems	
11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	Functions: Use trigonometric concepts and basic identities to solve problems	
Circles		[G-C]
Understand and apply theorems about circles		
1. Prove that all circles are similar.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Draw conclusions based on a set of conditions	
2. Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	Properties of Plane Figures: Use relationships among angles, arcs, and distances in a circle	
3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	Properties of Plane Figures: Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle	
4. (+) Construct a tangent line from a point outside a given circle to the circle.	Properties of Plane Figures: Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle	
Find arc lengths and areas of sectors of circles		
5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Draw conclusions based on a set of conditions Functions: Use trigonometric concepts and basic identities to solve problems	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT	
Geometry			
Expressing Geometric Properties with Equations		[G-GPE]	
Translate between the geometric description and the equation for a conic section			
1.	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	Expressions, Equations, & Inequalities: Manipulate expressions and equations Properties of Plane Figures: Use the Pythagorean theorem	
2.	Derive the equation of a parabola given a focus and directrix.	Graphical Representations: Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle) Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$	
3.	(+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.	Graphical Representations: Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$	
Use coordinates to prove simple geometric theorems algebraically			
4.	Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1,\sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.	Graphical Representations: Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane Use the distance formula Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point	
5.	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Graphical Representations: Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point	
6.	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	Graphical Representations: Find the midpoint of a line segment Use the distance formula Properties of Plane Figures: Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles	
7.	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*	Graphical Representations: Use the distance formula	
Geometric Measurement and Dimension		[G-GMD]	
Explain volume formulas and use them to solve problems			
1.	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	Measurement: Compute the area and circumference of circles after identifying necessary information Compute the perimeter of simple composite geometric figures with unknown side lengths Use relationships involving area, perimeter, and volume of geometric figures to compute another measure	
2.	(+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.	Measurement: Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Compute the area of composite geometric figures when planning or visualization is required	
3.	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*	Measurement: Use geometric formulas when all necessary information is given	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Geometry		
Geometric Measurement and Dimension		[G-GMD]
Visualize relationships between two-dimensional and three-dimensional objects		
4.	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	Properties of Plane Figures: Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas
Modeling with Geometry		[G-MG]
Apply geometric concepts in modeling situations		
1.	Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*	Measurement: Compute the area and perimeter of triangles and rectangles in simple problems Use geometric formulas when all necessary information is given Compute the area of triangles and rectangles when one or more additional simple steps are required Compute the area and circumference of circles after identifying necessary information Compute the perimeter of simple composite geometric figures with unknown side lengths
2.	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*	Basic Operations & Applications: Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour) Measurement: Use geometric formulas when all necessary information is given
3.	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*	Measurement: Compute the area and perimeter of triangles and rectangles in simple problems Use geometric formulas when all necessary information is given Compute the area of triangles and rectangles when one or more additional simple steps are required Compute the area and circumference of circles after identifying necessary information Compute the perimeter of simple composite geometric figures with unknown side lengths Use relationships involving area, perimeter, and volume of geometric figures to compute another measure Properties of Plane Figures: Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°) Use several angle properties to find an unknown angle measure Recognize Pythagorean triples Use properties of isosceles triangles Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Use the Pythagorean theorem Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Statistics and Probability*		
Interpreting Categorical and Quantitative Data		[S-ID]
Summarize, represent, and interpret data on a single count or measurement variable		
1. Represent data with plots on the real number line (dot plots, histograms, and box plots).	Probability, Statistics, & Data Analysis: Read tables and graphs Translate from one representation of data to another (e.g., a bar graph to a circle graph)	
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Probability, Statistics, & Data Analysis: Manipulate data from tables and graphs Interpret and use information from figures, tables, and graphs Distinguish between mean, median, and mode for a list of numbers	
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs	
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs	
Summarize, represent, and interpret data on two categorical and quantitative variables		
5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Exhibit knowledge of conditional and joint probability	
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.	Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Manipulate data from tables and graphs Interpret and use information from figures, tables, and graphs Graphical Representations: Locate points in the coordinate plane Determine the slope of a line from points or equations Match linear graphs with their equations Interpret and use information from graphs in the coordinate plane	
Interpret linear models		
7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Graphical Representations: Exhibit knowledge of slope Determine the slope of a line from points or equations	
8. Compute (using technology) and interpret the correlation coefficient of a linear fit.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs	
9. Distinguish between correlation and causation.	Probability, Statistics, & Data Analysis: Analyze and draw conclusions based on information from figures, tables, and graphs	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Statistics and Probability*		
Making Inferences and Justifying Conclusions		[S-IC]
Understand and evaluate random processes underlying statistical experiments		
1.	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs
2.	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. <i>For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?</i>	Probability, Statistics, & Data Analysis: Compute straightforward probabilities for common situations Interpret and use information from figures, tables, and graphs
Make inferences and justify conclusions from sample surveys, experiments, and observational studies		
3.	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	Probability, Statistics, & Data Analysis: Analyze and draw conclusions based on information from figures, tables, and graphs
4.	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	Probability, Statistics, & Data Analysis: Calculate the average of a list of numbers Manipulate data from tables and graphs Interpret and use information from figures, tables, and graphs
5.	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs
6.	Evaluate reports based on data.	Probability, Statistics, & Data Analysis: Interpret and use information from figures, tables, and graphs Analyze and draw conclusions based on information from figures, tables, and graphs
Conditional Probability and the Rules of Probability		[S-CP]
Understand independence and conditional probability and use them to interpret data		
1.	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	Probability, Statistics, & Data Analysis: Compute straightforward probabilities for common situations
2.	Understand that two events <i>A</i> and <i>B</i> are independent if the probability of <i>A</i> and <i>B</i> occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Probability, Statistics, & Data Analysis: Compute straightforward probabilities for common situations Exhibit knowledge of conditional and joint probability
3.	Understand the conditional probability of <i>A</i> given <i>B</i> as $P(A \text{ and } B)/P(B)$, and interpret independence of <i>A</i> and <i>B</i> as saying that the conditional probability of <i>A</i> given <i>B</i> is the same as the probability of <i>A</i> , and the conditional probability of <i>B</i> given <i>A</i> is the same as the probability of <i>B</i> .	Probability, Statistics, & Data Analysis: Exhibit knowledge of conditional and joint probability
4.	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. <i>For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.</i>	Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Exhibit knowledge of conditional and joint probability

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Statistics and Probability*		
Conditional Probability and the Rules of Probability		[S-CP]
Understand independence and conditional probability and use them to interpret data		
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. <i>For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.</i>	Probability, Statistics, & Data Analysis: Exhibit knowledge of conditional and joint probability	
Use the rules of probability to compute probabilities of compound events in a uniform probability model		
6. Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	Probability, Statistics, & Data Analysis: Exhibit knowledge of conditional and joint probability	
7. Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.	Probability, Statistics, & Data Analysis: Compute straightforward probabilities for common situations	
8. (+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model.	Probability, Statistics, & Data Analysis: Exhibit knowledge of conditional and joint probability	
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Probability, Statistics, & Data Analysis: Exhibit knowledge of simple counting techniques Apply counting techniques	
Using Probability to Make Decisions		[S-MD]
Calculate expected values and use them to solve problems		
1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.	Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Manipulate data from tables and graphs	
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.	Probability, Statistics, & Data Analysis: Calculate or use a weighted average	
3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. <i>For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.</i>	Probability, Statistics, & Data Analysis: Determine the probability of a simple event Compute straightforward probabilities for common situations Calculate or use a weighted average	
4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. <i>For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?</i>	Probability, Statistics, & Data Analysis: Translate from one representation of data to another (e.g., a bar graph to a circle graph) Manipulate data from tables and graphs Calculate or use a weighted average	

Common Core State Standards for Mathematics High School		ACT College Readiness Standards Mathematics PLAN/ACT
Statistics and Probability*		
Using Probability to Make Decisions		[S-MD]
Use probability to evaluate outcomes of decisions		
5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.		Probability, Statistics, & Data Analysis: Calculate or use a weighted average Analyze and draw conclusions based on information from figures, tables, and graphs
a. Find the expected payoff for a game of chance. <i>For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.</i> b. Evaluate and compare strategies on the basis of expected values. <i>For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.</i>		
6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).		Probability, Statistics, & Data Analysis: Determine the probability of a simple event Compute straightforward probabilities for common situations
7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).		Probability, Statistics, & Data Analysis: Determine the probability of a simple event Compute straightforward probabilities for common situations Analyze and draw conclusions based on information from figures, tables, and graphs



Appendix C

**Table Comparing
ACT's Course Standards
with the
Common Core State Standards for
English Language Arts
& Literacy in History/Social Studies,
Science, and Technical Subjects**

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Key Ideas and Details		
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	<p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p> <p>Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches</p> <p>Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>U.S. History</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Biology</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p>	
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	<p>Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts</p> <p>Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p>	
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	<p>Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts</p> <p>Identify, analyze, and evaluate the author's use of parallel plots and subplots in increasingly challenging texts</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT Course Standards English 12 (unless otherwise noted)
Reading	
Craft and Structure	
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	<p>Identify and interpret works in various poetic forms (e.g., ballad, ode, sonnet) and explain how meaning is conveyed through features of poetry, including sound (e.g., rhythm, repetition, alliteration), structure (e.g., meter, rhyme scheme), graphic elements (e.g., punctuation, line length, word position), and poetic devices (e.g., metaphor, imagery, personification, tone, symbolism)</p> <p>Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer's techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts</p> <p>Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts</p> <p>Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts</p> <p>Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts</p> <p>Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., the folk tale of the slave who could fly as used in Toni Morrison's novel <i>Song of Solomon</i>) in increasingly challenging texts</p> <p>Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts</p>
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.	<p>Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer's techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p>
6. Assess how point of view or purpose shapes the content and style of a text.	<p>Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts</p> <p>Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts</p> <p>Identify the author's stated or implied purpose in increasingly challenging texts</p> <p>U.S. History</p> <p>Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Integration of Knowledge and Ideas		
7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.	<p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p> <p>Read contrasting literary works (e.g., classic and contemporary) and determine how the forms influence structure and movement within the texts (e.g., comparing the poem <i>Beowulf</i> to John Gardner's contemporary novel <i>Grendel</i>)</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Recognize the main ideas in a variety of oral presentations and draw valid conclusions</p> <p>Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Biology</p> <p>Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data</p> <p>Chemistry</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>	
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.	<p>Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>U.S. History</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Biology</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain why scientific explanations must meet certain criteria (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, be subject to peer review, use ethical reporting methods and procedures)</p> <p>Chemistry</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p> <p>Physics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Integration of Knowledge and Ideas		
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.		<p>Compare texts to previously read texts, past and present events, and/or content learned in other coursework</p> <p>Read contrasting literary works (e.g., classic and contemporary) and determine how the forms influence structure and movement within the texts (e.g., comparing the poem <i>Beowulf</i> to John Gardner's contemporary novel <i>Grendel</i>)</p> <p>Critique the treatment and scope of ideas from multiple sources on the same topic, noting the authors' implicit and explicit philosophical assumptions and beliefs (e.g., analyze Chris Hedges' book <i>War Is a Force that Gives Us Meaning</i> and James Hillman's book <i>A Terrible Love of War</i>)</p> <p>Identify the author's stated or implied purpose in increasingly challenging texts</p> <p>U.S. History</p> <p>Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms</p>
Range of Reading and Level of Text Complexity		
10. Read and comprehend complex literary and informational texts independently and proficiently.		<p>Choose materials for independent reading on the basis of specific criteria (e.g., personal interest, own reading level, knowledge of authors and literary or nonliterary forms)</p> <p>Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task)</p> <p>Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms</p> <p>Use metacognitive skills (i.e., monitor, regulate, and orchestrate one's understanding) when reading increasingly challenging texts, using the most appropriate "fix-up" strategies (e.g., rereading, reading on, changing rate of reading, subvocalizing)</p> <p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p> <p>Use close-reading strategies (e.g., visualizing, annotating, questioning) in order to interpret increasingly challenging texts</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literature		[RL]
Key Ideas and Details		
1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.	Read dramatic literature (e.g., <i>Our Town</i> , <i>Romeo and Juliet</i>) and analyze its conventions to identify how they express a writer's meaning Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	Identify and interpret works in various poetic forms (e.g., ballad, ode, sonnet) and explain how meaning is conveyed through features of poetry, including sound (e.g., rhythm, repetition, alliteration), structure (e.g., meter, rhyme scheme), graphic elements (e.g., punctuation, line length, word position), and poetic devices (e.g., metaphor, imagery, personification, tone, symbolism) Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., Achilles' heel) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.	Compare texts to previously read texts, past and present events, and/or content learned in other coursework Compare works with similar themes or topics presented in different media or literary forms (e.g., the life of Helen Keller as presented in her autobiography <i>The Story of My Life</i> and in the play and movie <i>The Miracle Worker</i>) Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts	
6. Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts	
Integration of Knowledge and Ideas		
7. Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.	Compare works with similar themes or topics presented in different media or literary forms (e.g., the life of Helen Keller as presented in her autobiography <i>The Story of My Life</i> and in the play and movie <i>The Miracle Worker</i>)	
8. (Not applicable to literature)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literature		[RL]
Integration of Knowledge and Ideas		
9.	Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.	Describe archetypal images used in literature and film (e.g., the portrayal of Curley's wife in John Steinbeck's novel <i>Of Mice and Men</i> as the biblical Eve) Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts
Range of Reading and Level of Text Complexity		
10.	By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Key Ideas and Details		
1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Analyze an author's implicit and explicit argument, perspective, or viewpoint in a text (e.g., the role of social position in John Steinbeck's novel <i>Of Mice and Men</i>) Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., Achilles' heel) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other source	
6. Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Analyze an author's implicit and explicit argument, perspective, or viewpoint in a text (e.g., the role of social position in John Steinbeck's novel <i>Of Mice and Men</i>) Identify the author's stated or implied purpose in increasingly challenging texts Distinguish between fact and opinion, basing judgments on evidence and reasoning	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Integration of Knowledge and Ideas		
7.	Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.	Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event
8.	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions English 11 Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches
9.	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.	Compare texts to previously read texts, past and present events, and/or content learned in other coursework Describe what makes an author's style distinct from the styles of others Distinguish between fact and opinion, basing judgments on evidence and reasoning
Range of Reading and Level of Text Complexity		
10.	By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Key Ideas and Details		
1.	Cite specific textual evidence to support analysis of primary and secondary sources.	Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding
2.	Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Distinguish between fact and opinion, basing judgments on evidence and reasoning U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding
3.	Identify key steps in a text’s description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts
Craft and Structure		
4.	Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts U.S. History Apply terms relevant to the content appropriately and accurately
5.	Describe how a text presents information (e.g., sequentially, comparatively, causally).	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Describe what makes an author’s style distinct from the styles of others
6.	Identify aspects of a text that reveal an author’s point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	Identify the author’s stated or implied purpose in increasingly challenging texts U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)
Integration of Knowledge and Ideas		
7.	Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.	U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data
8.	Distinguish among fact, opinion, and reasoned judgment in a text.	Distinguish between fact and opinion, basing judgments on evidence and reasoning U.S. History Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Integration of Knowledge and Ideas		
9.	Analyze the relationship between a primary and secondary source on the same topic.	<p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p>
Range of Reading and Level of Text Complexity		
10.	By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.	<p>Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task)</p> <p>Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms</p> <p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects		
[RST]		
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	Biology Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, logical gaps, and omissions Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Distinguish between fact and opinion, basing judgments on evidence and reasoning	Biology Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	Biology Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments)	
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts	
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	Identify the author's stated or implied purpose in increasingly challenging texts Biology Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories	
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	Biology Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data	
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	Distinguish between fact and opinion, basing judgments on evidence and reasoning	
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	Compare texts to previously read texts, past and present events, and/or content learned in other coursework Biology Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects		
[RST]		
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.	<p>Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task)</p> <p>Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms</p> <p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Literature		[RL]
Key Ideas and Details		
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities	
3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	Identify and interpret works in various poetic forms (e.g., ballad, ode, sonnet) and explain how meaning is conveyed through features of poetry, including sound (e.g., rhythm, repetition, alliteration), structure (e.g., meter, rhyme scheme), graphic elements (e.g., punctuation, line length, word position), and poetic devices (e.g., metaphor, imagery, personification, tone, symbolism) Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Define and identify common idioms and literary, classical, and biblical allusions (e.g., “He had the patience of Job.”) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze how an author’s choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate the author’s use of parallel plots and subplots in increasingly challenging texts Describe what makes an author’s style distinct from the styles of others	
6. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Analyze an author’s implicit and explicit argument, perspective, or viewpoint in a text (e.g., Toni Cade Bambara’s argument about social class in the U.S. in her short story “The Lesson”)	
Integration of Knowledge and Ideas		
7. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden’s “Musée des Beaux Arts” and Breughel’s Landscape with the Fall of Icarus).	Describe how the choice of form (e.g., film, novel, sculpture) affects the presentation of a work’s theme or topic (e.g., comparing <i>Fahrenheit 451</i> to Francois Truffaut’s film version) English 9 Compare works with similar themes or topics presented in different media or literary forms (e.g., the life of Helen Keller as presented in her autobiography <i>The Story of My Life</i> and in the play and movie <i>The Miracle Worker</i>)	
8. (Not applicable to literature)		
9. Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).	Describe archetypal images used in literature and film (e.g., the hero’s journey as portrayed in Herman Hesse’s novel <i>Siddhartha</i> and Bernardo Bertolucci’s film <i>Little Buddha</i>)	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)	
Reading			
Reading Standards for Literature		[RL]	
Range of Reading and Level of Text Complexity			
10.	By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9–10 text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Key Ideas and Details		
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Analyze an author’s implicit and explicit argument, perspective, or viewpoint in a text (e.g., Toni Cade Bambara’s argument about social class in the U.S. in her short story “The Lesson”) Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze in detail how an author’s ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	Describe what makes an author’s style distinct from the styles of others Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
6. Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Analyze an author’s implicit and explicit argument, perspective, or viewpoint in a text (e.g., Toni Cade Bambara’s argument about social class in the U.S. in her short story “The Lesson”) Identify the author’s stated or implied purpose in increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Integration of Knowledge and Ideas		
7.	Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.	Describe how the choice of form (e.g., film, novel, sculpture) affects the presentation of a work's theme or topic (e.g., comparing <i>Fahrenheit 451</i> to Francois Truffaut's film version) Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event
8.	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective
9.	Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.	Identify, analyze, and evaluate the characteristics of literary forms (e.g., short stories, novels, poems, plays, biographies, essays, myths, speeches) from various cultures and of nonliterary forms (e.g., workplace and technical documents) Relate a literary work to the important ideas of the time and place in which it is set or in which it was written (e.g., the Great Migration as represented in Richard Wright's work <i>Black Boy</i> and Jacob Lawrence's paintings) Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts
Range of Reading and Level of Text Complexity		
10.	By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data	
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding	
3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts U.S. History Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation) Identify, analyze, and understand elements of historical cause and effect; recognize and understand patterns of change and continuity in history	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts U.S. History Apply terms relevant to the content appropriately and accurately	
5. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer’s techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts English 11 Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Craft and Structure		
6. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	Analyze an author's implicit and explicit argument, perspective, or viewpoint in a text (e.g., Toni Cade Bambara's argument about social class in the U.S. in her short story "The Lesson") Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities English 11 Critique the treatment and scope of ideas from multiple sources on the same topic, noting the authors' implicit and explicit philosophical assumptions and beliefs (e.g., analyze the treatment of Africa in Chinua Achebe's novel <i>Things Fall Apart</i> and Joseph Conrad's novel <i>Heart of Darkness</i>) U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data	
8. Assess the extent to which the reasoning and evidence in a text support the author's claims.	Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	
9. Compare and contrast treatments of the same topic in several primary and secondary sources.	Compare texts to previously read texts, past and present events, and/or content learned in other coursework Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	
Range of Reading and Level of Text Complexity		
10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects		
[RST]		
Key Ideas and Details		
1.	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Biology Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Chemistry Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly
2.	Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Biology Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Chemistry Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations
3.	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.	Biology Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments) Chemistry Collect, organize, and analyze data accurately and use techniques and equipment appropriately
Craft and Structure		
4.	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts Chemistry Distinguish between chemical symbols, empirical formulas, molecular formulas, and structural formulas Interpret the information conveyed by chemical formulas for numbers of atoms of each element represented Provide the interconversion of molecular formulas, structural formulas, and names, including common binary and ternary acids

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Craft and Structure		
5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i> , <i>friction</i> , <i>reaction force</i> , <i>energy</i>).		Use organization or structure of text (e.g., comparison/contrast, cause/effect, problem/solution) and writer's techniques (e.g., repetition of ideas, syntax, word choice) to aid comprehension of increasingly challenging texts Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Biology Discuss evidence from the fields of geology, biochemistry, embryology, comparative anatomy, and comparative physiology that points to shared evolutionary relationships
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.		Identify the author's stated or implied purpose in increasingly challenging texts
Integration of Knowledge and Ideas		
7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		Biology Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Chemistry Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data
8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.		Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches Biology Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain why scientific explanations must meet certain criteria (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, be subject to peer review, use ethical reporting methods and procedures) Chemistry Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)
9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.		Compare texts to previously read texts, past and present events, and/or content learned in other coursework Biology Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Chemistry Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)	
Reading			
Reading Standards for Literacy in Science and Technical Subjects			
[RST]			
Range of Reading and Level of Text Complexity			
10.	By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literature		[RL]
Key Ideas and Details		
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities	
3. Analyze the impact of the author’s choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Identify, analyze, and evaluate the author’s use of parallel plots and subplots in increasingly challenging texts	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)	Identify and interpret works in various poetic forms (e.g., ballad, ode, sonnet) and explain how meaning is conveyed through features of poetry, including sound (e.g., rhythm, repetition, alliteration), structure (e.g., meter, rhyme scheme), graphic elements (e.g., punctuation, line length, word position), and poetic devices (e.g., metaphor, imagery, personification, tone, symbolism) Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., the folk tale of the slave who could fly as used in Toni Morrison’s novel <i>Song of Solomon</i>) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze how an author’s choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts	
6. Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).	Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Critique the treatment and scope of ideas from multiple sources on the same topic, noting the authors’ implicit and explicit philosophical assumptions and beliefs (e.g., analyze Chris Hedges’ book <i>War Is a Force that Gives Us Meaning</i> and James Hillman’s book <i>A Terrible Love of War</i>) Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts	
Integration of Knowledge and Ideas		
7. Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)	Read contrasting literary works (e.g., classic and contemporary) and determine how the forms influence structure and movement within the texts (e.g., comparing the poem <i>Beowulf</i> to John Gardner’s contemporary novel <i>Grendel</i>)	
8. (Not applicable to literature)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literature		[RL]
Integration of Knowledge and Ideas		
9.	Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.	<p>Analyze and evaluate the influence of traditional and mythic literature on later literature and film (e.g., the Aristotelian concept of the tragic hero as depicted in William Shakespeare's play <i>King Lear</i>)</p> <p>Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts</p> <p>English 9</p> <p>Compare works with similar themes or topics presented in different media or literary forms (e.g., the life of Helen Keller as presented in her autobiography <i>The Story of My Life</i> and in the play and movie <i>The Miracle Worker</i>)</p>
Range of Reading and Level of Text Complexity		
10.	By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11–CCR text complexity band independently and proficiently.	<p>Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task)</p> <p>Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms</p> <p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Key Ideas and Details		
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Identify, analyze, and evaluate the author’s use of parallel plots and subplots in increasingly challenging texts Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines <i>faction</i> in <i>Federalist</i> No. 10).	Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	
5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts Distinguish between valid and invalid arguments; provide evidence to support the author’s findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches	
6. Determine an author’s point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Critique the treatment and scope of ideas from multiple sources on the same topic, noting the authors’ implicit and explicit philosophical assumptions and beliefs (e.g., analyze Chris Hedges’ book <i>War Is a Force that Gives Us Meaning</i> and James Hillman’s book <i>A Terrible Love of War</i>) Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Informational Text		[RI]
Integration of Knowledge and Ideas		
7.	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Recognize the main ideas in a variety of oral presentations and draw valid conclusions Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event
8.	Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., <i>The Federalist</i> , presidential addresses).	Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches Identify the author's stated or implied purpose in increasingly challenging texts
9.	Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.	Identify, analyze, and evaluate plot, character development, setting, theme, mood, and point of view as they are used together to create meaning in increasingly challenging texts Evaluate ways authors develop style to achieve specific rhetorical and aesthetic purposes, noting the impact of diction and figurative language on tone, mood, and theme; cite specific examples from increasingly challenging texts Identify the author's stated or implied purpose in increasingly challenging texts
Range of Reading and Level of Text Complexity		
10.	By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.	Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data	
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.	Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding	
3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation) Identify, analyze, and understand elements of historical cause and effect; recognize and understand patterns of change and continuity in history	
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines <i>faction</i> in <i>Federalist</i> No. 10).	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject matter vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts U.S. History Apply terms relevant to the content appropriately and accurately	
5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literacy in History/Social Studies		[RH]
Craft and Structure		
6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.	Critique the treatment and scope of ideas from multiple sources on the same topic, noting the authors' implicit and explicit philosophical assumptions and beliefs (e.g., analyze Chris Hedges' book <i>War Is a Force that Gives Us Meaning</i> and James Hillman's book <i>A Terrible Love of War</i>) Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	
Integration of Knowledge and Ideas		
7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.	Recognize the main ideas in a variety of oral presentations and draw valid conclusions Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data	
8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.	Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities U.S. History Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	
9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.	Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism) U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)	
Reading			
Reading Standards for Literacy in History/Social Studies		[RH]	
Range of Reading and Level of Text Complexity			
10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11–12 text complexity band independently and proficiently.		Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task) Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions	

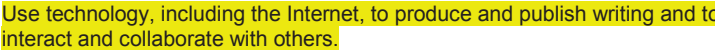
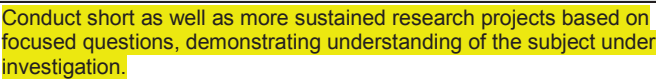
Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.	<p>Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>	
2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.	<p>Summarize and paraphrase information in increasingly challenging texts, identifying key ideas, supporting details, inconsistencies, and ambiguities</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p>	
3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	<p>Chemistry</p> <p>Collect, organize, and analyze data accurately and use techniques and equipment appropriately</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Physics</p> <p>Collect, organize, and analyze data accurately and use appropriate techniques and devices</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects [RST]		
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject matter vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts Chemistry Distinguish between chemical symbols, empirical formulas, molecular formulas, and structural formulas Interpret the information conveyed by chemical formulas for numbers of atoms of each element represented Provide the interconversion of molecular formulas, structural formulas, and names, including common binary and ternary acids	
5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.	Critique the effectiveness of the organizational pattern (e.g., comparison/contrast, cause/effect, problem/solution) and how clarity of meaning is affected by the writer’s techniques (e.g., repetition of ideas, syntax, word choice) in increasingly challenging texts Chemistry Classify chemical reactions as being synthesis, decomposition, single replacement, or double replacement reactions Describe how matter is classified by state of matter and by composition	
6. Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.	Identify the author’s stated or implied purpose in increasingly challenging texts	
Integration of Knowledge and Ideas		
7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.	Chemistry Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Physics Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly	
8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.	Distinguish between valid and invalid arguments; provide evidence to support the author’s findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches Chemistry Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures) Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Physics Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures) Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Reading		
Reading Standards for Literacy in Science and Technical Subjects		
[RST]		
Integration of Knowledge and Ideas		
9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.		<p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Chemistry</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>
Range of Reading and Level of Text Complexity		
10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.		<p>Read independently for a variety of purposes (e.g., for enjoyment, to gain information, to perform a task)</p> <p>Read increasingly challenging whole texts in a variety of literary (e.g., poetry, drama, fiction, nonfiction) and nonliterary (e.g., textbooks, news articles, memoranda) forms</p> <p>Demonstrate comprehension of increasingly challenging texts (both print and nonprint sources) by asking and answering literal, interpretive, and evaluative questions</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Writing		
Text Types and Purposes		
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.		<p>Craft first and final drafts of persuasive papers that articulate a clear position; support assertions using rhetorical devices, including personal anecdotes and appeals to emotion or logic; and develop arguments using a variety of methods</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Write and deliver persuasive speeches that use logical, emotional, and ethical appeals; establish and develop a logical and structured argument; anticipate audience concerns and counterarguments; and include relevant evidence from a variety of sources</p> <p>U.S. History</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p>
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.		<p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>U.S. History</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>All QualityCore Mathematics Courses</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Writing		
Text Types and Purposes		
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.		<p>Craft first and final drafts of expressive, reflective, or creative texts (e.g., poetry, scripts) that use a range of literary devices (e.g., figurative language, sound devices, stage directions) to convey a specific effect</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>English 10</p> <p>Craft first and final drafts of fictional, biographical, and autobiographical narratives that use specific settings, sensory details, dialogue, and tone to develop plot and characters</p>
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Recognize and correct errors that weaken writing, including nonparallel structure, shifts from active to passive voice, misused modifiers, and awkward sentence construction</p> <p>Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Evaluate own sentence style by identifying common sentence patterns and constructions</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p> <p>U.S. History</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.		<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT Course Standards English 12 (unless otherwise noted)
Writing	
Production and Distribution of Writing	
6.  Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Actively participate in small-group and large-group discussions, assuming various roles</p>
Research to Build and Present Knowledge	
7.  Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Biology</p> <p>Identify and clarify biological research questions and design experiments</p> <p>Complete a major project relating to recombinant DNA, cloning, or stem cell research</p> <p>Chemistry</p> <p>Identify and clarify research questions and design experiments</p> <p>Physics</p> <p>Identify and clarify research questions and design experiments</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Writing		
Research to Build and Present Knowledge		
8.	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Biology</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Chemistry</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Physics</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>
9.	Draw evidence from literary or informational texts to support analysis, reflection, and research.	<p>Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Evaluate a work of literature from a variety of perspectives (e.g., applying a postcolonialist perspective to E.M. Forster's novel <i>Passage to India</i>)</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples</p> <p>Craft first and final drafts of responses to literature that organize an insightful interpretation around several clear ideas, premises, or images and support judgments with specific references to the original text and to other texts or authors</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p>
Range of Writing		
10.	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Writing [W]		
Text Types and Purposes		
1. Write arguments to support claims with clear reasons and relevant evidence.		Craft first and final drafts of persuasive papers that support arguments with detailed evidence, exclude irrelevant information, and correctly cite sources
a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.		Add important information and delete irrelevant information to more clearly establish a central idea
b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.		Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing
c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.		Use a variety of sentence structures to vary pace and to support meaning
d. Establish and maintain a formal style.		Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose
e. Provide a concluding statement or section that follows from and supports the argument presented.		Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources
		Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective
		Compile and organize the important information to support central ideas, concepts, and themes
2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.		Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples
a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.		Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product
b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.		Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing
c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.		Add important information and delete irrelevant information to more clearly establish a central idea
d. Use precise language and domain-specific vocabulary to inform about or explain the topic.		Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice
e. Establish and maintain a formal style.		Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing
f. Provide a concluding statement or section that follows from and supports the information or explanation presented.		Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice
		Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose
3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.		Craft first and final drafts of expressive, reflective, or creative texts (e.g., poetry, scripts) that use a range of literary devices (e.g., figurative language, sound devices, stage directions) to convey a specific effect
a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.		Craft first and final drafts of fictional, biographical, and autobiographical narratives that use specific settings, sensory details, dialogue, and tone to develop plot and characters
b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.		Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence
c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.		Add important information and delete irrelevant information to more clearly establish a central idea
d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.		Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice
e. Provide a conclusion that follows from and reflects on the narrated experiences or events.		Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing
		Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice
		Use strong action verbs, sensory details, vivid imagery, and precise words

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Writing		[W]
Production and Distribution of Writing		
4.	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Correct run-ons, fragments, and dangling and/or misplaced modifiers to improve clarity</p> <p>Use a variety of sentence structures to vary pace and to support meaning</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p>
5.	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p>
6.	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Actively participate in small-group and large-group discussions, assuming various roles</p>
Research to Build and Present Knowledge		
7.	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Compose a short research report, oral or written, that includes a clear thesis statement, title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p>
8.	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Writing [W]		
Research to Build and Present Knowledge		
9.	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>a. Apply grade 8 Reading standards to literature (e.g., “Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new”).</p> <p>b. Apply grade 8 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced”).</p>	<p>Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Generate interpretations of increasingly challenging texts; support judgments by citing evidence from the text</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Craft first and final drafts of responses to literature that organize an insightful interpretation around several clear ideas, premises, or images and support judgments with specific references to the original text</p> <p>Compile and organize the important information to support central ideas, concepts, and themes</p>
Range of Writing		
10.	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Revise, refine, edit, and proofread own and others’ writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
1. Write arguments focused on discipline-specific content.	<p>Craft first and final drafts of persuasive papers that support arguments with detailed evidence, exclude irrelevant information, and correctly cite sources</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use a variety of sentence structures to vary pace and to support meaning</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Compile and organize the important information to support central ideas, concepts, and themes</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>	
a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.		
b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.		
c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.		
d. Establish and maintain a formal style.		
e. Provide a concluding statement or section that follows from and supports the argument presented.		
2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.	<p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>	
a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.		
b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.		
c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.		
d. Use precise language and domain-specific vocabulary to inform about or explain the topic.		
e. Establish and maintain a formal style and objective tone.		
f. Provide a concluding statement or section that follows from and supports the information or explanation presented.		
3. (Not applicable as a separate requirement)		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Correct run-ons, fragments, and dangling and/or misplaced modifiers to improve clarity</p> <p>Use a variety of sentence structures to vary pace and to support meaning</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>	
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p>	
6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p>	
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Compose a short research report, oral or written, that includes a clear thesis statement, title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p> <p>U.S. History</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Develop open-ended historical questions that can be addressed through historical research and interpretation</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 6–8		ACT Course Standards English 9 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Research to Build and Present Knowledge		
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.		<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>
9. Draw evidence from informational texts to support analysis, reflection, and research.		<p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Compile and organize the important information to support central ideas, concepts, and themes</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p>
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.		<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a friend about a party versus writing a letter to your grandmother about the same party)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing [W]		
Text Types and Purposes		
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.		Craft first and final drafts of persuasive papers that support arguments with detailed evidence, exclude irrelevant information, and correctly cite sources
a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.		Add important information and delete irrelevant information to more clearly establish a central idea Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing
b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.		Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect
c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.		Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources
d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.		Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective
e. Provide a concluding statement or section that follows from and supports the argument presented.		Compile and systematically organize important information to support central ideas, concepts, and themes
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.		Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples
a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.		Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product
b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.		Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence
c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.		Add important information and delete irrelevant information to more clearly establish a central idea Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice
d. Use precise language and domain-specific vocabulary to manage the complexity of the topic.		Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing
e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.		Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice
f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).		Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing [W]		
Text Types and Purposes		
3.	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.</p> <p>a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.</p> <p>b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.</p> <p>c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.</p> <p>d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.</p> <p>e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</p>	<p>Craft first and final drafts of expressive, reflective, or creative texts (e.g., poetry, scripts) that use a range of literary devices (e.g., figurative language, sound devices, stage directions) to convey a specific effect</p> <p>Craft first and final drafts of fictional, biographical, and autobiographical narratives that use specific settings, sensory details, dialogue, and tone to develop plot and characters</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p>
Production and Distribution of Writing		
4.	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Correct run-ons, fragments, and dangling and misplaced modifiers to improve clarity</p> <p>Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p>
5.	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p>
6.	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		[W]
Research to Build and Present Knowledge		
7.	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Compile and systematically organize important information to support central ideas, concepts, and themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Compose a research paper that develops a clear argument and includes title page, outline, first and final drafts, and works-cited page, adhering to guidelines from MLA or other stylebooks</p>
8.	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p>
9.	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>a. Apply grades 9–10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]").</p> <p>b. Apply grades 9–10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning").</p>	<p>Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Provide an interpretation of a literary work that is supported by evidence from the text and from cogent reasoning</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Craft first and final drafts of responses to literature that organize an insightful interpretation around several clear ideas, premises, or images and support judgments with specific references to the original text and to other texts or authors</p> <p>Compile and systematically organize important information to support central ideas, concepts, and themes</p>
Range of Writing		
10.	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10	ACT Course Standards English 10 (unless otherwise noted)
Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Text Types and Purposes	
<p>1. Write arguments focused on discipline-specific content.</p> <ul style="list-style-type: none"> a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented. 	<p>Craft first and final drafts of persuasive papers that support arguments with detailed evidence, exclude irrelevant information, and correctly cite sources</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Compile and systematically organize important information to support central ideas, concepts, and themes</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Biology</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
2.	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <p>a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p> <p>Biology</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>
3.	(Not applicable as a separate requirement)	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and maintain consistent style, tone, and voice</p> <p>Correct run-ons, fragments, and dangling and misplaced modifiers to improve clarity</p> <p>Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p>	
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p>	
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Research to Build and Present Knowledge		
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Compose a research paper that develops a clear argument and includes title page, outline, first and final drafts, and works-cited page, adhering to guidelines from MLA or other stylebooks</p> <p>U.S. History</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Develop open-ended historical questions that can be addressed through historical research and interpretation</p> <p>Biology</p> <p>Complete a major project relating to recombinant DNA, cloning, or stem cell research</p> <p>Identify and clarify biological research questions and design experiments</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Chemistry</p> <p>Identify and clarify research questions and design experiments</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Research to Build and Present Knowledge		
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate source information (e.g., primary and secondary sources) for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Biology Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Chemistry Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>	
9. Draw evidence from informational texts to support analysis, reflection, and research.	<p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts, and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject and support the main ideas with facts, details, and examples</p> <p>Compile and systematically organize important information to support central ideas, concepts, and themes</p> <p>U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Biology Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain why scientific explanations must meet certain criteria (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, be subject to peer review, use ethical reporting methods and procedures)</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Chemistry Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Range of Writing		
10.	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to the editor endorsing need for a dog park)</p> <p>Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT Course Standards English 12 (unless otherwise noted)
Writing [W]	
Text Types and Purposes	
<p>1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.</p> <ul style="list-style-type: none"> a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented. 	<p>Craft first and final drafts of persuasive papers that articulate a clear position; support assertions using rhetorical devices, including personal anecdotes and appeals to emotion or logic; and develop arguments using a variety of methods</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p>
<p>2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.</p> <ul style="list-style-type: none"> a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic). 	<p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples</p> <p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Writing		[W]
Text Types and Purposes		
3.	<p>Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.</p> <p>a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.</p> <p>b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.</p> <p>c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).</p> <p>d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.</p> <p>e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.</p>	<p>Craft first and final drafts of expressive, reflective, or creative texts (e.g., poetry, scripts) that use a range of literary devices (e.g., figurative language, sound devices, stage directions) to convey a specific effect</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p> <p>English 10</p> <p>Craft first and final drafts of fictional, biographical, and autobiographical narratives that use specific settings, sensory details, dialogue, and tone to develop plot and characters</p>
Production and Distribution of Writing		
4.	<p>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Recognize and correct errors that weaken writing, including nonparallel structure, shifts from active to passive voice, misused modifiers, and awkward sentence construction</p> <p>Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p>
5.	<p>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p>	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Writing [W]		
Production and Distribution of Writing		
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.		<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p>
Research to Build and Present Knowledge		
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p>
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.		<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p>
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grades 11–12 Reading standards to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics"). b. Apply grades 11–12 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., <i>The Federalist</i> , presidential addresses]").		<p>Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches</p> <p>Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources</p> <p>Evaluate a work of literature from a variety of perspectives (e.g., applying a postcolonialist perspective to E.M. Forster's novel <i>Passage to India</i>)</p> <p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples</p> <p>Craft first and final drafts of responses to literature that organize an insightful interpretation around several clear ideas, premises, or images and support judgments with specific references to the original text and to other texts or authors</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p>
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.		<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions</p> <p>Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12	ACT Course Standards English 12 (unless otherwise noted)
Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Text Types and Purposes	
<p>1. Write arguments focused on discipline-specific content.</p> <p>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>Craft first and final drafts of persuasive papers that articulate a clear position; support assertions using rhetorical devices, including personal anecdotes and appeals to emotion or logic; and develop arguments using a variety of methods</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Analyze the importance of context and point of view in historical interpretation (e.g., interpret past events and issues in historical context rather than in terms of present norms and values); recognize that historians interpret the same events differently due to personal values and societal norms</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Text Types and Purposes		
2.	<p>Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <p>a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p>	<p>Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples</p> <p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Write an introduction that engages the reader and a conclusion that summarizes, extends, or elaborates points or ideas in the writing</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>
3.	(Not applicable as a separate requirement)	

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Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	<p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Establish and develop a clear thesis statement for informational writing or a clear plan or outline for narrative writing</p> <p>Organize writing to create a coherent whole with effective, fully developed paragraphs, similar ideas grouped together for unity, and paragraphs arranged in a logical sequence</p> <p>Add important information and delete irrelevant information and details to more clearly establish a central idea</p> <p>Rearrange words, sentences, and/or paragraphs and add transitional words and phrases to clarify meaning and to achieve specific aesthetic and rhetorical purposes</p> <p>Recognize and correct errors that weaken writing, including nonparallel structure, shifts from active to passive voice, misused modifiers, and awkward sentence construction</p> <p>Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect</p> <p>Use parallel structure to present items in a series and items juxtaposed for emphasis</p> <p>Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Compose an analytical, historical essay containing a thesis, supporting evidence, and a conclusion</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p>	
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	<p>Use prewriting strategies (e.g., brainstorming, webbing, note taking, interviewing, background reading) to generate, focus, and organize ideas as well as to gather information</p> <p>Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay)</p> <p>Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions</p>	
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p>	

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Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Research to Build and Present Knowledge	
<p>7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Decide on a research question and develop a hypothesis, modifying questions as necessary during the project to further narrow the focus or extend the investigation</p> <p>Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines</p> <p>U.S. History</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Utilize research strategies, methods, and sources to obtain, organize, and interpret historical data</p> <p>Develop open-ended historical questions that can be addressed through historical research and interpretation</p> <p>Chemistry</p> <p>Identify and clarify research questions and design experiments</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Physics</p> <p>Identify and clarify research questions and design experiments</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>

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Writing	
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]	
Research to Build and Present Knowledge	
<p>8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p>	<p>Use research methods (e.g., background reading, online searches, surveys, interviews) to locate and collect reliable information from print and nonprint sources</p> <p>Evaluate multiple sources of information for accuracy, credibility, currency, utility, relevance, reliability, and perspective</p> <p>Summarize, paraphrase, and directly quote from sources, including the Internet, to support the thesis of the paper and/or presentation; accurately cite every source to avoid compromising others' intellectual property (i.e., plagiarism)</p> <p>U.S. History</p> <p>Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding</p> <p>Analyze and evaluate historical sources and interpretations (e.g., credibility, perspective, bias, and authenticity; verifiable or unverifiable; fact or interpretation)</p> <p>Chemistry</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p> <p>Physics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p> <p>Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly</p>

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Writing		
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects [WHST]		
Research to Build and Present Knowledge		
9. Draw evidence from informational texts to support analysis, reflection, and research.	Locate important details and facts that support ideas, arguments, or inferences in increasingly challenging texts and substantiate analyses with textual examples that may be in widely separated sections of the text or in other sources Craft first and final drafts of informational essays or reports that provide clear and accurate perspectives on the subject; support the main ideas with facts, details, and examples; and make distinctions about the relative value and significance of those facts, details, and examples Identify discrepancies in information, recognize the complexities of issues conveyed about the topic, and systematically organize the information to support central ideas, concepts, or themes U.S. History Identify and interpret different types of primary and secondary sources of fundamental importance and relevance to topical inquiry and understanding Chemistry Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures) Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Physics Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures) Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly	
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	Analyze writing assignments in terms of purpose and audience to determine which strategies to use (e.g., writing a letter to a potential employer versus writing a college-entrance essay) Create and use various tools (e.g., rubrics, checklists, models, writing conferences) to revise, refine, edit, and proofread own and others' writing, using appropriate rhetorical, logical, and stylistic criteria for assessing the final versions of compositions Use appropriate essay-test-taking and timed-writing strategies that address and analyze the question (prompt)	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT Course Standards English 12 (unless otherwise noted)
Speaking and Listening	
Comprehension and Collaboration	
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	<p>Apply analytic and active listening strategies (e.g., paraphrasing, monitoring messages for clarity, selecting and organizing essential information, noting change-of-pace cues) in formal and informal settings</p> <p>Actively participate in small-group and large-group discussions, assuming various roles</p> <p>U.S. History</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p>
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	<p>Recognize the main ideas in a variety of oral presentations and draw valid conclusions</p> <p>Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements</p> <p>Analyze the effectiveness and validity of arguments (e.g., causation, analogy, inductive and deductive reasoning, appeals to emotion or authority) in visual and oral texts</p> <p>Compare how different media forms (e.g., television news, news magazines, documentaries, online news sources) cover the same event</p>
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	<p>Recognize the main ideas in a variety of oral presentations and draw valid conclusions</p> <p>Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements</p> <p>Analyze the effectiveness and validity of arguments (e.g., causation, analogy, inductive and deductive reasoning, appeals to emotion or authority) in visual and oral texts</p> <p>Analyze and evaluate the way language choice (e.g., repetition, use of rhetorical questions) and delivery style (e.g., eye contact, nonverbal messages) affect the mood and tone of the communication and make an impact on the audience</p> <p>U.S. History</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Biology</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Chemistry</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Physics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>	ACT Course Standards English 12 (unless otherwise noted)
Speaking and Listening	
Presentation of Knowledge and Ideas	
<p>4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.</p>	<p>Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources</p> <p>Use effective delivery skills (e.g., appropriate volume, inflection, articulation, gestures, eye contact, posture, facial expression)</p> <p>Give impromptu and planned presentations (e.g., debates, formal meetings) that stay on topic and/or adhere to prepared notes</p> <p>Write and deliver informational speeches that present a clear, distinctive perspective on the subject and support the controlling idea with well-chosen and well-organized facts and details from a variety of sources</p> <p>Write and deliver persuasive speeches that use logical, emotional, and ethical appeals; establish and develop a logical and structured argument; anticipate audience concerns and counterarguments; and include relevant evidence from a variety of sources</p> <p>U.S. History</p> <p>Compose arguments/position papers, and participate in debates on different interpretations of the same historical events; synthesize primary and secondary sources to justify position</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p>
<p>5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.</p>	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>All QualityCore Mathematics Courses</p> <p>Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Algebra I</p> <p>Identify the most efficient way to display data</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>		ACT Course Standards English 12 (unless otherwise noted)
Speaking and Listening		
Presentation of Knowledge and Ideas		
6.	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources Use effective delivery skills (e.g., appropriate volume, inflection, articulation, gestures, eye contact, posture, facial expression) Give impromptu and planned presentations (e.g., debates, formal meetings) that stay on topic and/or adhere to prepared notes

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8	ACT Course Standards English 9 (unless otherwise noted)
Speaking and Listening [SL]	
Comprehension and Collaboration	
<p>1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.</p> <p>a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.</p> <p>b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.</p> <p>c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.</p> <p>d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.</p>	<p>Actively participate in small-group and large-group discussions, assuming various roles</p>
<p>2. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.</p>	<p>Recognize the main ideas in a variety of oral presentations and draw valid conclusions</p> <p>Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements</p> <p>Identify types of arguments (e.g., causation, analogy, appeals to emotion or authority) in visual and oral texts</p>
<p>3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.</p>	<p>Recognize the main ideas in a variety of oral presentations and draw valid conclusions</p> <p>Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements</p> <p>Identify types of arguments (e.g., causation, analogy, appeals to emotion or authority) in visual and oral texts</p>
Presentation of Knowledge and Ideas	
<p>4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.</p>	<p>Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources</p> <p>Use effective delivery skills (e.g., appropriate volume, inflection, articulation, gestures, eye contact, posture, facial expression)</p> <p>Write and deliver informational speeches that present a clear, distinctive perspective on the subject and support the controlling idea with well-chosen and well-organized facts and details from a variety of sources</p> <p>Write and deliver persuasive speeches that use logical, emotional, and ethical appeals; structured arguments; and relevant evidence from a variety of sources</p>
<p>5. Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.</p>	<p>Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product</p>
<p>6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.</p>	<p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources</p> <p>Give impromptu and planned presentations (e.g., debates, formal meetings) that stay on topic and/or adhere to prepared notes</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Speaking and Listening		[SL]
Comprehension and Collaboration		
1.	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.	Apply analytic and active listening strategies (e.g., paraphrasing, monitoring messages for clarity, selecting and organizing essential information, noting change-of-pace cues) in formal and informal settings Actively participate in small-group and large-group discussions, assuming various roles
2.	Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	Identify, analyze, and evaluate the effectiveness of persuasive techniques (e.g., appeals to emotion, reason, or authority; stereotyping) and the presence of bias in literature, film, advertising, and/or speeches Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements Identify types of arguments (e.g., causation, analogy, appeals to emotion or authority) in visual and oral texts
3.	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	Recognize the main ideas in a variety of oral presentations and draw valid conclusions Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements Identify types of arguments (e.g., causation, analogy, appeals to emotion or authority) in visual and oral texts Analyze and evaluate the way language choice (e.g., repetition, use of rhetorical questions) and delivery style (e.g., eye contact, nonverbal messages) affect the mood and tone of the communication and make an impact on the audience
Presentation of Knowledge and Ideas		
4.	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources Use effective delivery skills (e.g., appropriate volume, inflection, articulation, gestures, eye contact, posture, facial expression) Write and deliver informational speeches that present a clear, distinctive perspective on the subject and support the controlling idea with well-chosen and well-organized facts and details from a variety of sources Write and deliver persuasive speeches that use logical, emotional, and ethical appeals; structured arguments; and relevant evidence from a variety of sources
5.	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Speaking and Listening		[SL]
Presentation of Knowledge and Ideas		
6.	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	<p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources</p> <p>Give impromptu and planned presentations (e.g., debates, formal meetings) that stay on topic and/or adhere to prepared notes</p>

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Speaking and Listening		[SL]
Comprehension and Collaboration		
1.	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.	Apply analytic and active listening strategies (e.g., paraphrasing, monitoring messages for clarity, selecting and organizing essential information, noting change-of-pace cues) in formal and informal settings Actively participate in small-group and large-group discussions, assuming various roles
2.	Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.	Distinguish between valid and invalid arguments; provide evidence to support the author's findings; and note instances of unsupported inferences, fallacious reasoning, and propaganda techniques used in literature, film, advertising, and/or speeches Identify and evaluate the effect of logical fallacies (e.g., overgeneralization, bandwagon) and the presence of biases and stereotypes in television and print advertising, speeches, newspaper articles, and Internet advertisements Analyze the effectiveness and validity of arguments (e.g., causation, analogy, inductive and deductive reasoning, appeals to emotion or authority) in visual and oral texts
3.	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.	Recognize the main ideas in a variety of oral presentations and draw valid conclusions Analyze and evaluate the way language choice (e.g., repetition, use of rhetorical questions) and delivery style (e.g., eye contact, nonverbal messages) affect the mood and tone of the communication and make an impact on the audience
Presentation of Knowledge and Ideas		
4.	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.	Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources Use effective delivery skills (e.g., appropriate volume, inflection, articulation, gestures, eye contact, posture, facial expression) Write and deliver informational speeches that present a clear, distinctive perspective on the subject and support the controlling idea with well-chosen and well-organized facts and details from a variety of sources Write and deliver persuasive speeches that use logical, emotional, and ethical appeals; establish and develop a logical and structured argument; anticipate audience concerns and counterarguments; and include relevant evidence from a variety of sources
5.	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	Prepare writing for publication by choosing the most appropriate format, considering principles of design (e.g., margins, tabs, spacing, columns) and the use of various fonts and graphics (e.g., drawings, charts, graphs); use electronic resources to enhance the final product

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)	
Speaking and Listening		[SL]	
Presentation of Knowledge and Ideas			
6.	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.	Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose Use elements of speech forms—introduction, transitions, body, and conclusion—including the use of facts, literary quotations, anecdotes, and/or references to authoritative sources Give impromptu and planned presentations (e.g., debates, formal meetings) that stay on topic and/or adhere to prepared notes	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Anchor Standards		ACT Course Standards English 12 (unless otherwise noted)
Language		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	Recognize and correct errors that weaken writing, including nonparallel structure, shifts from active to passive voice, misused modifiers, and awkward sentence construction Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect Use parallel structure to present items in a series and items juxtaposed for emphasis Correctly choose verb forms in terms of tense, voice (i.e., active and passive), and mood for continuity Make subject and verb agree in number, even when a phrase or clause between the two suggests a different number for the verb Use pronouns correctly (e.g., appropriate case, pronoun-antecedent agreement, clear pronoun reference) Correctly choose adjectives, adjective phrases, adjective clauses, adverbs, adverb phrases, and adverb clauses and their forms for logical connection to word(s) modified Correctly use parts of speech	
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	Correctly spell commonly misspelled/confused words Use punctuation correctly within sentences and words Demonstrate correct use of capitalization	
Knowledge of Language		
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect Use parallel structure to present items in a series and items juxtaposed for emphasis Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice Compose a research paper that maintains an appropriate balance between researched information and original ideas, anticipates counterarguments, blends quotations into its body gracefully, and includes title page, outline, first and final drafts, and works-cited page, adhering to MLA or other stylebook guidelines	
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject matter vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Infer word meanings by analyzing relationships between words (e.g., synonyms, antonyms, metaphors, analogies) in increasingly challenging texts Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice	
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Infer word meanings by analyzing relationships between words (e.g., synonyms, antonyms, metaphors, analogies) in increasingly challenging texts Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., the folk tale of the slave who could fly as used in Toni Morrison's novel <i>Song of Solomon</i>) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Anchor Standards</i>		ACT Course Standards English 12 (unless otherwise noted)	
Language			
Vocabulary Acquisition and Use			
6.	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	<p>Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject matter vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies)</p> <p>Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words</p> <p>Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p> <p>U.S. History</p> <p>Apply terms relevant to the content appropriately and accurately</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>All QualityCore Mathematics Courses</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT Course Standards
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.	All QualityCore English Courses Use pronouns correctly (e.g., appropriate case, pronoun-antecedent agreement, clear pronoun reference) English 9 and English 10 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice Use strong action verbs, sensory details, vivid imagery, and precise words English 11 and English 12 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice Use strong action verbs, sensory details, vivid imagery, and precise words
L.3.3a. Choose words and phrases for effect.	English 9 and English 10 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice Use strong action verbs, sensory details, vivid imagery, and precise words English 11 and English 12 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice Use strong action verbs, sensory details, vivid imagery, and precise words
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.	English 9 and English 10 Correct run-ons, fragments, and dangling and/or misplaced modifiers to improve clarity English 11 and English 12 Recognize and correct errors that weaken writing, including nonparallel structure, shifts from active to passive voice, misused modifiers, and awkward sentence construction
L.4.1g. Correctly use frequently confused words (e.g., <i>to/tool/two; there/their</i>).	All QualityCore English Courses Correctly spell commonly misspelled/confused words
L.4.3b. Choose punctuation for effect.	All QualityCore English Courses Recognize that several correct punctuation choices create different effects (e.g., joining two independent clauses in a variety of ways)
L.5.1d. Recognize and correct inappropriate shifts in verb tense.	All QualityCore English Courses Correctly choose verb forms in terms of tense, voice (i.e., active and passive), and mood for continuity
L.5.2a. Use punctuation to separate items in a series.	All QualityCore English Courses Use punctuation correctly within sentences and words
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.	English 9 and English 10 Make subject and verb agree in number, even when there is some text between the subject and verb English 11 and English 12 Make subject and verb agree in number, even when a phrase or clause between the two suggests a different number for the verb
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).	All QualityCore English Courses Use pronouns correctly (e.g., appropriate case, pronoun-antecedent agreement, clear pronoun reference)

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects <i>Language Progressive Skills</i>	ACT Course Standards
Language [L]	
<i>The following skills, introduced in Grades 3–9, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.</i>	
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.	All QualityCore English Courses Identify and interpret common idioms and literary, classical, and biblical allusions (e.g., Achilles' heel) in increasingly challenging texts English 9 and English 10 Revise, refine, edit, and proofread own and others' writing, using appropriate tools (e.g., checklists, writing conferences, student-developed and professional rubrics or models), to find strengths and weaknesses and to seek strategies for improvement Use strong action verbs, sensory details, vivid imagery, and precise words English 11 and English 12 Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.	All QualityCore English Courses Use punctuation correctly within sentences and words
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.	All QualityCore English Courses Use parallel structure to present items in a series and items juxtaposed for emphasis English 9 Use a variety of sentence structures to vary pace and to support meaning English 10 Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect English 11 and 12 Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect
L.6.3b. Maintain consistency in style and tone.	English 9 and English 10 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice English 11 and English 12 Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	All QualityCore English Courses Correctly choose adjectives, adjective phrases, adjective clauses, adverbs, adverb phrases, and adverb clauses and their forms for logical connection to word(s) modified
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	English 9 and English 10 Use strong action verbs, sensory details, vivid imagery, and precise words English 11 and English 12 Use strong action verbs, sensory details, vivid imagery, and precise words
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.	All QualityCore English Courses Correctly choose verb forms in terms of tense, voice (i.e., active and passive), and mood for continuity
L.9–10.1a. Use parallel structure.	All QualityCore English Courses Use parallel structure to present items in a series and items juxtaposed for emphasis

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)
Language [L]		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood.	Make subject and verb agree in number, even when there is some text between the subject and verb Correctly choose adjectives, adjective phrases, adjective clauses, adverbs, adverb phrases, and adverb clauses and their forms for logical connection to word(s) modified Correctly use parts of speech	
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. b. Use an ellipsis to indicate an omission. c. Spell correctly.	Correctly spell commonly misspelled/confused words Use punctuation correctly within sentences and words	
Knowledge of Language		
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).	Correctly choose verb forms in terms of tense, voice (i.e., active and passive), and mood for continuity	
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies) Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts	
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g. verbal irony, puns) in context. b. Use the relationship between particular words to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute).	Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Infer word meanings by analyzing relationships between words (e.g., synonyms, antonyms, metaphors, analogies) in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grade 8		ACT Course Standards English 9 (unless otherwise noted)	
Language		[L]	
Vocabulary Acquisition and Use			
6.	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	<p>Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies)</p> <p>Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words</p> <p>Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts</p> <p>Use strong action verbs, sensory details, vivid imagery, and precise words</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)
Language [L]		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.		Use parallel structure to present items in a series and items juxtaposed for emphasis Correctly choose adjectives, adjective phrases, adjective clauses, adverbs, adverb phrases, and adverb clauses and their forms for logical connection to word(s) modified
a. Use parallel structure.		
b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.		
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.		Correctly spell commonly misspelled/confused words Use punctuation correctly within sentences and words
a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.		
b. Use a colon to introduce a list or quotation.		
c. Spell correctly.		
Knowledge of Language		
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.		Combine phrases and clauses to create simple, compound, complex, and compound-complex sentences and to coordinate or subordinate meaning for effect Use parallel structure to present items in a series and items juxtaposed for emphasis Compose a research paper that develops a clear argument and includes title page, outline, first and final drafts, and works-cited page, adhering to guidelines from MLA or other stylebooks
a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., <i>MLA Handbook</i> , <i>Turabian's Manual for Writers</i>) appropriate for the discipline and writing type.		
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.		Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words Use context clues (e.g., author's restatement, example) to understand unfamiliar words in increasingly challenging texts Correctly use parts of speech
a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.		
b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., <i>analyze, analysis, analytical; advocate, advocacy</i>).		
c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.		
d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).		
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.		Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts
a. Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text.		
b. Analyze nuances in the meaning of words with similar denotations.		

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 9–10		ACT Course Standards English 10 (unless otherwise noted)	
Language		[L]	
Vocabulary Acquisition and Use			
6.	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	<p>Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject area vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies)</p> <p>Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words</p> <p>Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p>	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)
Language [L]		
Conventions of Standard English		
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. b. Resolve issues of complex or contested usage, consulting references (e.g., Merriam-Webster’s Dictionary of English Usage, Garner’s Modern American Usage) as needed.	Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words Correctly use parts of speech	
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Observe hyphenation conventions. b. Spell correctly.	Correctly spell commonly misspelled/confused words Use punctuation correctly within sentences and words	
Knowledge of Language		
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. a. Vary syntax for effect, consulting references (e.g., Tufte’s Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.	Combine phrases and clauses to create sentences of varying lengths and sophistication (e.g., simple, compound-complex, balanced, periodic, cumulative) and to coordinate or subordinate meaning for effect Use parallel structure to present items in a series and items juxtaposed for emphasis Use resources and reference materials (e.g., dictionaries and thesauruses) to select effective and precise vocabulary that maintains consistent style, tone, and voice	
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words Use context clues (e.g., author’s restatement, example) to understand unfamiliar words in increasingly challenging texts Correctly use parts of speech	
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations.	Identify, analyze, and evaluate the ways in which the devices the author chooses (e.g., irony, imagery, tone, sound techniques, foreshadowing, symbolism) achieve specific effects and shape meaning in increasingly challenging texts Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts	

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects Grades 11–12		ACT Course Standards English 12 (unless otherwise noted)	
Language		[L]	
Vocabulary Acquisition and Use			
6.	Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	<p>Apply knowledge of Greek, Latin, and Anglo-Saxon affixes, inflections, and roots to understand unfamiliar words and new subject matter vocabulary in increasingly challenging texts (e.g., words in science, mathematics, and social studies)</p> <p>Use general and specialized dictionaries, thesauruses, and glossaries (print and electronic) to determine the definition, pronunciation, derivation, spelling, and usage of words</p> <p>Apply knowledge of connotation and denotation to determine the meanings of words and phrases in increasingly challenging texts</p> <p>Use formal, informal, standard, and technical language effectively to meet the needs of audience and purpose</p>	



Appendix D

**Table Comparing
ACT's Course Standards
with the
Common Core State Standards for
Mathematics**

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT Course Standards
<p>1. Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	<p>All QualityCore Mathematics Courses</p> <p>Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems</p> <p>Use a variety of strategies to set up and solve increasingly complex problems</p> <p>Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solutions to increasingly complex problems</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Apply previously learned mathematical concepts in more advanced contexts</p>
<p>2. Reason abstractly and quantitatively.</p> <p>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p>	<p>All QualityCore Mathematics Courses</p> <p>Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems</p> <p>Use a variety of strategies to set up and solve increasingly complex problems</p> <p>Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solutions to increasingly complex problems</p> <p>Chemistry</p> <p>Solve for unknown quantities by manipulating variables</p> <p>Physics</p> <p>Solve for unknown quantities by manipulating variables</p>
<p>3. Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, standards for mathematical practice communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	<p>All QualityCore Mathematics Courses</p> <p>Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Geometry</p> <p>Use definitions, basic postulates, and theorems about points, segments, lines, angles, and planes to write proofs and to solve problems</p> <p>Use inductive reasoning to make conjectures and deductive reasoning to arrive at valid conclusions</p> <p>Identify and write conditional and biconditional statements along with the converse, inverse, and contrapositive of a conditional statement; use these statements to form conclusions</p> <p>Read and write different types and formats of proofs including two-column, flowchart, paragraph, and indirect proofs</p> <p>Biology</p> <p>Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments)</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p>

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT Course Standards
	<p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Recognize and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain why scientific explanations must meet certain criteria (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, be subject to peer review, use ethical reporting methods and procedures)</p> <p>Chemistry</p> <p>Collect, organize, and analyze data accurately and use techniques and equipment appropriately</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p> <p>Physics</p> <p>Collect, organize, and analyze data accurately and use appropriate techniques and devices</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Explain and apply criteria that scientists use to evaluate the validity of scientific claims and theories</p> <p>Explain the criteria that explanations must meet to be considered scientific (e.g., be consistent with experimental/observational evidence about nature, be open to critique and modification, use ethical reporting methods and procedures)</p>
<p>4. Model with mathematics.</p> <p>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>	<p>All QualityCore Mathematics Courses</p> <p>Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems</p> <p>Use a variety of strategies to set up and solve increasingly complex problems</p> <p>Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Algebra I</p> <p>Translate real-world problems into expressions using variables to represent values</p> <p>Write and graph linear equations and inequalities from real-world situations (e.g., a constant-rate distance/time problem)</p> <p>Identify an approximate line of best fit to model data and make predictions</p> <p>Geometry</p> <p>Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders)</p> <p>Apply the Isosceles Triangle Theorem and its converse to triangles to solve mathematical and real-world problems</p>

Common Core State Standards for Mathematics <i>Standards for Mathematical Practice</i>	ACT Course Standards
	<p>Identify similar figures and use ratios and proportions to solve mathematical and real-world problems (e.g., finding the height of a tree using the shadow of the tree and the height and shadow of a person)</p> <p>Find the lateral area, surface area, and volume of prisms, cylinders, cones, and pyramids in mathematical and real-world settings</p> <p>Find the surface area and volume of a sphere in mathematical and real-world settings</p> <p>Use trigonometric ratios to find the sides or angles of right triangles and to solve real-world problems (e.g., use angles of elevation and depression to find missing measures)</p> <p>Algebra II</p> <p>Solve linear programming problems by finding maximum and minimum values of a function over a region defined by linear inequalities</p> <p>Solve mathematical and real-world rational equation problems (e.g., work or rate problems)</p> <p>Evaluate and solve radical equations given a formula for a real-world situation</p> <p>Use the law of cosines and the law of sines to find the lengths of sides and measures of angles of triangles in mathematical and real-world problems</p> <p>Use addition, subtraction, and multiplication of matrices to solve real-world problems</p> <p>Precalculus</p> <p>Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)</p> <p>Graph and write the equations of sine and cosine functions given the amplitude, period, phase shift, and vertical translation; use the functions to model real-life situations (e.g., spring problems, ocean tides)</p> <p>Use the standard normal curve to study properties of normal distributions of data (e.g., give percent of data within a given interval)</p> <p>Estimate population characteristics based on samples</p> <p>Biology</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data</p> <p>Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Routinely make predictions and estimations</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics</p> <p>Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations</p> <p>Routinely make predictions and estimations</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT Course Standards
<p>5. Use appropriate tools strategically.</p> <p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	<p>All QualityCore Mathematics Courses</p> <p>Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solutions to increasingly complex problems</p> <p>Geometry</p> <p>Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors</p> <p>Algebra II</p> <p>Use technology to perform operations on matrices, find determinants, and find inverses</p> <p>Biology</p> <p>Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data</p> <p>Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry</p> <p>Routinely make predictions and estimations</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Calculate percent error and analyze experimental errors that affect percent error</p> <p>Physics</p> <p>Routinely make predictions and estimations</p> <p>Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>
<p>6. Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>	<p>All QualityCore Mathematics Courses</p> <p>Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solutions to increasingly complex problems</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Biology</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Use appropriate SI units for length, mass, time, temperature, quantity, area, volume, and density, and describe the relationships among SI unit prefixes (e.g., centi-, milli-, kilo-) and how SI units are related to analogous English units</p> <p>Chemistry</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Distinguish between precision and accuracy with respect to experimental data</p> <p>Use appropriate SI units for length, mass, time, temperature, quantity of matter, area, volume, and density; describe the relationships among SI unit prefixes (e.g., centi-, milli-, kilo-); recognize commonly used non-SI units</p>

Common Core State Standards for Mathematics Standards for Mathematical Practice	ACT Course Standards
	<p>Use the correct number of significant figures in reporting measurements and the results of calculations</p> <p>Physics</p> <p>Write and speak effectively to present and explain scientific results, using appropriate terminology and graphics</p> <p>Distinguish between precision and accuracy with respect to experimental data</p> <p>Use appropriate SI units for length, mass, time, temperature, area, volume, and density; describe the relationships among SI unit prefixes (e.g., centi-, milli-, kilo-) and how to convert between English units and SI units</p> <p>Calculate/estimate, using significant figures, the uncertainty in experimental results, and use the uncertainty to evaluate and interpret results</p>
<p>7. Look for and make use of structure.</p> <p>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.</p>	<p>All QualityCore Mathematics Courses</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Apply previously learned mathematical concepts in more advanced contexts</p> <p>Algebra I</p> <p>Factor perfect square trinomials and the difference of two squares</p> <p>Factor trinomials in the form $ax^2 + bx + c$</p> <p>Identify arithmetic sequences and patterns in a set of data</p>
<p>8. Look for and express regularity in repeated reasoning.</p> <p>Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1,2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p>	<p>All QualityCore Mathematics Courses</p> <p>Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Algebra I</p> <p>Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description</p> <p>Identify arithmetic sequences and patterns in a set of data</p> <p>Identify patterns of growth (e.g., patterns of exponential growth) in a set of data</p> <p>Algebra II</p> <p>Find the nth term of an arithmetic or geometric sequence</p> <p>Find the position of a given term of an arithmetic or geometric sequence</p> <p>Find sums of a finite arithmetic or geometric series</p> <p>Use sequences and series to solve real-world problems</p> <p>Precalculus</p> <p>Use limits to approximate the slope of a curve at a point</p> <p>Use limits to approximate the area under a curve</p> <p>Find the sum of an infinite geometric series</p> <p>Find or estimate the limit of an infinite sequence or determine that the limit does not exist</p> <p>Use mathematical induction to prove the validity of mathematical statements</p>

Common Core State Standards for Mathematics Grade 8		ACT Course Standards Algebra I (unless otherwise noted)
The Number System [8.NS]		
Know that there are numbers that are not rational, and approximate them by rational numbers.		
1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.		Add, subtract, multiply, and divide rational numbers, including integers, fractions, and decimals, without calculators Solve single-step and multistep equations and inequalities in one variable Graph linear inequalities in one variable on the real number line to solve problems
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.		Graph linear inequalities in one variable on the real number line to solve problems
Expressions and Equations [8.EE]		
Work with radicals and integer exponents.		
1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.		Use properties of exponents (including zero and negative exponents) to evaluate and simplify expressions
2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.		Find rational number square roots (without calculators) and approximate irrational square roots (with and without calculators) Evaluate and simplify radical expression
3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 , and determine that the world population is more than 20 times larger.		Use scientific notation when working with very large or very small quantities
4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.		Use scientific notation when working with very large or very small quantities Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)
Understand the connections between proportional relationships, lines, and linear equations.		
5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.		Set up and solve problems following the correct order of operations (including proportions, percent, and absolute value) with rational numbers (integers, fractions, decimals) Identify, formulate, and obtain solutions to problems involving direct and inverse variation
6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .		Write and graph linear equations and inequalities from real-world situations (e.g., a constant-rate distance/time problem) Identify, formulate, and obtain solutions to problems involving direct and inverse variation Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description

Common Core State Standards for Mathematics Grade 8		ACT Course Standards Algebra I (unless otherwise noted)
Expressions and Equations [8.EE]		
Analyze and solve linear equations and pairs of simultaneous linear equations.		
7. Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.		Solve single-step and multistep equations and inequalities in one variable
8. Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6. c. Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.		Solve systems of two equations using various methods, including elimination, substitution, and graphing with and without technology
Functions [8.F]		
Define, evaluate, and compare functions.		
1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.		Give the domain and range of relations and functions Evaluate functions at given values Identify graphs of relations and functions and analyze them to determine whether a relation is a function (e.g., vertical line test)
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.		Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables
3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1, 1), (2, 4) and (3, 9), which are not on a straight line.		Graph a linear equation using a table of values, x- and y-intercepts, slope-intercept form, and technology
Use functions to model relationships between quantities.		
4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.		Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables

Common Core State Standards for Mathematics Grade 8		ACT Course Standards Algebra I (unless otherwise noted)
Functions [8.F]		
Use functions to model relationships between quantities.		
5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.		Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables
Geometry [8.G]		
Understand congruence and similarity using physical models, transparencies, or geometry software.		
1. Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.		Geometry Identify and draw images of transformations and use their properties to solve problems Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.		Geometry Identify congruent figures and their corresponding parts Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons Identify and draw images of transformations and use their properties to solve problems Identify and give properties of congruent or similar solids
3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.		Geometry Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane
4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.		Geometry Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i>		Geometry Identify corresponding, same-side interior, same-side exterior, alternate interior, and alternate exterior angle pairs formed by a pair of parallel lines and a transversal and use these special angle pairs to solve problems (e.g., solve equations, use in proofs) Apply the Angle Sum Theorem for triangles and polygons to find interior and exterior angle measures given the number of sides, to find the number of sides given angle measures, and to solve real-world problems
Understand and apply the Pythagorean Theorem.		
6. Explain a proof of the Pythagorean Theorem and its converse.		Geometry Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders) Identify and use Pythagorean triples in right triangles to find lengths of the unknown side
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.		Geometry Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders) Identify and use Pythagorean triples in right triangles to find lengths of the unknown side
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.		Geometry Apply the midpoint and distance formulas to points and segments to find midpoints, distances, and missing information

Common Core State Standards for Mathematics Grade 8		ACT Course Standards Algebra I (unless otherwise noted)	
Geometry [8.G]			
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.			
9.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Geometry	Identify and classify prisms, pyramids, cylinders, cones, and spheres and use their properties to solve problems
Statistics and Probability [8.SP]			
Investigate patterns of association in bivariate data.			
1.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions	
2.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Identify an approximate line of best fit to model data and make predictions	
3.	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i>	Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description Identify an approximate line of best fit to model data and make predictions	
4.	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i>	Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions	

Common Core State Standards for Mathematics High School		ACT Course Standards
Number and Quantity		
The Real Number System		[N-RN]
Extend the properties of exponents to rational exponents.		
1.	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.	Algebra I Use properties of exponents (including zero and negative exponents) to evaluate and simplify expressions
2.	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Algebra I Use properties of exponents (including zero and negative exponents) to evaluate and simplify expressions Algebra II Simplify radicals that have various indices Use properties of roots and rational exponents to evaluate and simplify expressions Add, subtract, multiply, and divide expressions containing radicals Rationalize denominators containing radicals and find the simplest common denominator
Use properties of rational and irrational numbers.		
3.	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	Algebra I Use rational numbers to demonstrate knowledge of additive and multiplicative inverses Add, subtract, multiply, and divide rational numbers, including integers, fractions, and decimals, without calculators Find rational number square roots (without calculators) and approximate irrational square roots (with and without calculators) Evaluate and simplify radical expressions Multiply radical expressions

Common Core State Standards for Mathematics High School	ACT Course Standards
Number and Quantity	
Quantities*	[N-Q]
Reason quantitatively and use units to solve problems.	
<p>1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>	<p>All QualityCore Mathematics Courses Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems Use a variety of strategies to set up and solve increasingly complex problems Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Algebra I Simplify ratios</p> <p>Algebra II Solve mathematical and real-world rational equation problems (e.g., work or rate problems)</p> <p>Biology Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry Use appropriate SI units for length, mass, time, temperature, quantity of matter, area, volume, and density; describe the relationships among SI unit prefixes (e.g., centi-, milli-, kilo-); recognize commonly used non-SI units</p> <p>Physics Use appropriate SI units for length, mass, time, temperature, area, volume, and density; describe the relationships among SI unit prefixes (e.g., centi-, milli-, kilo-) and how to convert between English units and SI units</p>
<p>2. Define appropriate quantities for the purpose of descriptive modeling.</p>	<p>All QualityCore Mathematics Courses Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences</p>
<p>3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p>	<p>All QualityCore Mathematics Courses Make appropriate use of estimation and mental mathematics in computations and to determine the reasonableness of solutions to increasingly complex problems Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Chemistry Distinguish between precision and accuracy with respect to experimental data</p> <p>Physics Distinguish between precision and accuracy with respect to experimental data</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Number and Quantity		
The Complex Number System		[N-CN]
Perform arithmetic operations with complex numbers.		
1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.	Algebra II Identify complex numbers and write their conjugates Add, subtract, and multiply complex numbers Simplify quotients of complex numbers	
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	Algebra I Apply algebraic properties (e.g., commutative, associative, distributive, identity, inverse, substitution) to simplify algebraic expressions Algebra II Identify complex numbers and write their conjugates Add, subtract, and multiply complex numbers Simplify quotients of complex numbers	
3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.	Algebra II Identify complex numbers and write their conjugates Simplify quotients of complex numbers	
Represent complex numbers and their operations on the complex plane.		
4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.	Precalculus Express two-dimensional points and equations in rectangular and polar coordinates	
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}i)^3 = 8$ because $(-1 + \sqrt{3}i)$ has modulus 2 and argument 120° .	Geometry Apply the midpoint and distance formulas to points and segments to find midpoints, distances, and missing information Algebra II Identify complex numbers and write their conjugates Precalculus Express two-dimensional points and equations in rectangular and polar coordinates Find powers and roots of complex numbers in polar form using De Moivre's theorem	
6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.	Geometry Apply the midpoint and distance formulas to points and segments to find midpoints, distances, and missing information	
Use complex numbers in polynomial identities and equations.		
7. Solve quadratic equations with real coefficients that have complex solutions.	Algebra II Solve quadratic equations with complex number solutions	
8. (+) Extend polynomial identities to the complex numbers. For example, rewrite $x^2 + 4$ as $(x + 2i)(x - 2i)$.	Algebra II Solve quadratic equations with complex number solutions	
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.	Algebra I Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions Algebra II Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations	

Common Core State Standards for Mathematics High School	ACT Course Standards
Number and Quantity	
Vector and Matrix Quantities	[N-VM]
Represent and model with vector quantities.	
<p>1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., \mathbf{v}, \mathbf{v}, $\ \mathbf{v}\$, v).</p>	<p>All QualityCore Mathematics Courses Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Precalculus Graphically add and subtract vectors and perform scalar multiplication Use coordinates to perform vector operations and to determine the magnitude and direction of a vector</p> <p>Physics Relate the magnitude of the centripetal acceleration to the speed or rate of revolution and to the radius of orbit for a particle undergoing uniform circular motion Describe the direction of the velocity and acceleration vectors for a particle undergoing uniform circular motion at any given position in its orbit</p>
<p>2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.</p>	<p>Precalculus Graphically add and subtract vectors and perform scalar multiplication Use coordinates to perform vector operations and to determine the magnitude and direction of a vector</p> <p>Physics Resolve a vector into mutually perpendicular components</p>
<p>3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.</p>	<p>Precalculus Solve real-world problems involving vector displacements (e.g., airplane in the wind, weight of an object on a ramp)</p> <p>Physics Solve problems in kinematics using the equations $\mathbf{v} = \mathbf{v}_0 + \mathbf{at}$, $\mathbf{s} = \mathbf{s}_0 + \mathbf{v}_0t + (1/2)\mathbf{at}^2$, and $v_{\text{avg}} = (\mathbf{s} - \mathbf{s}_0)/t$ Calculate the displacement, velocity, and altitude over time for a projectile that is launched at a given initial velocity from a launch site at a given altitude above a horizontal plane Determine vector sums by graphical and mathematical means Calculate the amount of work done by a given force exerted on a body that is constrained to move on a given plane Calculate the change in energy (kinetic, gravitational potential, and elastic potential) that results from performing a specified amount of work on a body Use the laws of the conservation of momentum and the conservation of mechanical energy to solve problems involving elastic collisions Relate power to work, and solve problems involving acceleration, force, distance, and time Calculate the total linear momentum of an isolated system of moving masses Calculate the time-averaged force acting on a body when an impulsive force is exerted on the body Solve problems using the conservation of linear momentum, including those involving two bodies following paths that intersect at arbitrary angles Calculate, for a body initially moving in a straight line at a constant speed, the net change in the velocity of the body that will result when a constant net force is applied to the body for a given amount of time Draw a free-body diagram, and write a vector equation for a body in the form of Newton's second law Calculate the Coulomb force exerted upon a specified point charge by one or more point charges Use vector addition to combine the electric fields of two or more point charges and to determine the strength of the resultant electric field at a prescribed location in space Calculate the magnitude and direction of the electrical force exerted by an electric field on a positive charge and by the same electric field on a negative charge</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Number and Quantity		
Vector and Matrix Quantities		[N-VM]
Represent and model with vector quantities.		
		Calculate the electrical work done on a positive or negative charge that moves through a uniform electric field Calculate the work done on a charged particle by an electric field as the particle moves through a potential gradient associated with the electric field Calculate the magnitude and determine the direction of the electrical current in a conducting wire
Perform operations on vectors.		
4. (+) Add and subtract vectors. a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum. c. Understand vector subtraction $\mathbf{v} - \mathbf{w}$ as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of \mathbf{w} , with the same magnitude as \mathbf{w} and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.		Precalculus Graphically add and subtract vectors and perform scalar multiplication Use coordinates to perform vector operations and to determine the magnitude and direction of a vector Physics Determine vector sums by graphical and mathematical means
5. (+) Multiply a vector by a scalar. a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$. b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $\ c\mathbf{v}\ = c \mathbf{v}$. Compute the direction of $c\mathbf{v}$ knowing that when $ c \mathbf{v} \neq 0$, the direction of $c\mathbf{v}$ is either along \mathbf{v} (for $c > 0$) or against \mathbf{v} (for $c < 0$).		Precalculus Graphically add and subtract vectors and perform scalar multiplication Use coordinates to perform vector operations and to determine the magnitude and direction of a vector
Perform operations on matrices and use matrices in applications.		
6. (+) Use matrices to represent and manipulate data , e.g., to represent payoffs or incidence relationships in a network.		All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Algebra II Use addition, subtraction, and multiplication of matrices to solve real-world problems
7. (+) Multiply matrices by scalars to produce new matrices , e.g., as when all of the payoffs in a game are doubled.		Algebra II Add, subtract, and multiply matrices
8. (+) Add, subtract, and multiply matrices of appropriate dimensions.		Algebra II Add, subtract, and multiply matrices
9. (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.		Algebra II Add, subtract, and multiply matrices
10. (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.		Algebra II Add, subtract, and multiply matrices Calculate the determinant of 2×2 and 3×3 matrices Find the inverse of a 2×2 matrix

Common Core State Standards for Mathematics High School		ACT Course Standards
Number and Quantity		
Vector and Matrix Quantities		[N-VM]
Perform operations on matrices and use matrices in applications.		
11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.		Algebra II Add, subtract, and multiply matrices Precalculus Use matrices to determine the coordinates of polygons under a given transformation
12. (+) Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.		Precalculus Use matrices to determine the coordinates of polygons under a given transformation

Common Core State Standards for Mathematics High School	ACT Course Standards
Algebra	
Seeing Structure in Expressions	[A-SSE]
Interpret the structure of expressions	
<p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1 + r)^n$ as the product of P and a factor not depending on P.</p>	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences Apply previously learned mathematical concepts in more advanced contexts</p> <p>Algebra I Translate real-world problems into expressions using variables to represent values Add and subtract polynomials Factor a monomial from a polynomial</p> <p>Geometry Manipulate perimeter and area formulas to solve problems (e.g., finding missing lengths) Use area to solve problems involving geometric probability</p> <p>Algebra II Graph circles and parabolas and their translations from given equations or characteristics with and without technology Determine characteristics of circles and parabolas from their equations and graphs Identify and write equations for circles and parabolas from given characteristics and graphs Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations Use addition, subtraction, and multiplication of matrices to solve real-world problems</p> <p>Precalculus Graph ellipses and hyperbolas and their translations from given equations or characteristics Determine characteristics of ellipses and hyperbolas from given equations and graphs Identify and write equations for ellipses and hyperbolas from given characteristics and graphs</p>
<p>2. Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.</p>	<p>All QualityCore Mathematics Courses Use a variety of strategies to set up and solve increasingly complex problems</p> <p>Algebra I Factor perfect square trinomials and the difference of two squares Factor trinomials in the form $ax^2 + bx + c$</p> <p>Algebra II Solve quadratic equations and inequalities using various techniques, including completing the square and using the quadratic formula</p> <p>Precalculus Solve polynomial equations using a variety of methods (e.g., factoring, rational roots theorem)</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Algebra	
Seeing Structure in Expressions [A-SSE]	
Write expressions in equivalent forms to solve problems	
<p>3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*</p> <p>a. Factor a quadratic expression to reveal the zeros of the function it defines.</p> <p>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.</p> <p>c. Use the properties of exponents to transform expressions for exponential functions. For example, the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*</p>	<p>Algebra I</p> <p>Factor a monomial from a polynomial</p> <p>Factor perfect square trinomials and the difference of two squares</p> <p>Factor trinomials in the form $ax^2 + bx + c$</p> <p>Algebra II</p> <p>Graph circles and parabolas and their translations from given equations or characteristics with and without technology</p> <p>Determine characteristics of circles and parabolas from their equations and graphs</p> <p>Identify and write equations for circles and parabolas from given characteristics and graphs</p> <p>Precalculus</p> <p>Graph ellipses and hyperbolas and their translations from given equations or characteristics</p> <p>Convert conic equations in general form to standard form</p> <p>Determine characteristics of ellipses and hyperbolas from given equations and graphs</p> <p>Identify and write equations for ellipses and hyperbolas from given characteristics and graphs</p>
<p>4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.</p>	<p>Algebra II</p> <p>Find sums of a finite arithmetic or geometric series</p> <p>Use sequences and series to solve real-world problems</p> <p>Precalculus</p> <p>Find the sum of an infinite geometric series</p> <p>Use mathematical induction to prove the validity of mathematical statements</p>
Arithmetic with Polynomials and Rational Expressions [A-APR]	
Perform arithmetic operations on polynomials	
<p>1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.</p>	<p>Algebra I</p> <p>Add and subtract polynomials</p> <p>Multiply monomials, binomials, trinomials, and polynomials</p>
Understand the relationship between zeros and factors of polynomials	
<p>2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.</p>	<p>Algebra II</p> <p>Factor polynomials using a variety of methods (e.g., factor theorem, synthetic division, long division, sums and differences of cubes, grouping)</p> <p>Precalculus</p> <p>Solve polynomial equations using a variety of methods (e.g., factoring, rational roots theorem)</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Algebra		
Arithmetic with Polynomials and Rational Expressions		[A-APR]
Understand the relationship between zeros and factors of polynomials		
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.		Algebra I Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle Identify graphs of quadratic functions Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions Algebra II Factor polynomials using a variety of methods (e.g., factor theorem, synthetic division, long division, sums and differences of cubes, grouping) Find all rational zeros of a polynomial function Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function Precalculus Use algebraic tests to determine whether the graph of a relation is symmetrical Graph general polynomial functions from given characteristics such as degree, sign of lead coefficient, and roots and their multiplicity Find the rational roots, real roots, and complex roots of a polynomial function
Use polynomial identities to solve problems		
4. Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.		Algebra I Add and subtract polynomials Multiply monomials, binomials, trinomials, and polynomials Geometry Identify and use Pythagorean triples in right triangles to find lengths of the unknown side
5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n , where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.		Precalculus Describe the binomial theorem and Pascal's triangle; use them to expand polynomials Use mathematical induction to prove the validity of mathematical statements
Rewrite rational expressions		
6. Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.		Algebra I Apply algebraic properties (e.g., commutative, associative, distributive, identity, inverse, substitution) to simplify algebraic expressions Evaluate and simplify rational expressions Add, subtract, multiply, and divide rational expressions Algebra II Factor polynomials using a variety of methods (e.g., factor theorem, synthetic division, long division, sums and differences of cubes, grouping)
7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.		Algebra I Apply algebraic properties (e.g., commutative, associative, distributive, identity, inverse, substitution) to simplify algebraic expressions Evaluate and simplify rational expressions Add, subtract, multiply, and divide rational expressions

Common Core State Standards for Mathematics High School	ACT Course Standards
Algebra	
Creating Equations*	[A-CED]
Create equations that describe numbers or relationships	
<p>1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p>	<p>Algebra I Translate real-world problems into expressions using variables to represent values Solve single-step and multistep equations and inequalities in one variable Solve equations that contain absolute value Write linear equations in standard form and slope-intercept form when given two points, a point and the slope, or the graph of the equation Identify, formulate, and obtain solutions to problems involving direct and inverse variation Graph linear inequalities in one variable on the real number line to solve problems Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions Evaluate and simplify rational expressions</p> <p>Algebra II Solve compound inequalities containing “and” and “or” and graph the solution set Solve mathematical and real-world rational equation problems (e.g., work or rate problems)</p> <p>Precalculus Solve equations involving real exponents Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)</p> <p>Chemistry Explain density qualitatively and solve density problems by applying an understanding of the concept of density Define the gas laws given by Boyle, Charles, Gay-Lussac, and Dalton and solve problems based on these laws Describe Avogadro’s hypothesis and use it to solve stoichiometric problems Apply the mathematical relationships that exist among the volume, temperature, pressure, and number of particles in an ideal gas</p> <p>Physics Write equations for the displacement and velocity of an object over time; based on these equations, recognize and/or draw graphs of the object’s displacement and velocity versus time Solve problems in kinematics using the equations $v = v_o + at$, $s = s_o + v_o t + (1/2)at^2$, and $v_{avg} = (s - s_o)/t$ Write equations for the horizontal and vertical components of both a projectile’s displacement over time and its velocity over time Calculate the displacement, velocity, and altitude over time for a projectile that is launched at a given initial velocity from a launch site at a given altitude above a horizontal plane Write the equation for the force exerted by an ideal spring, both as a function of the amount the spring is stretched and as a function of the amount the spring is compressed; in each case, write the equation for the potential energy stored in the spring Write an equation that describes the dependence of the frictional force between a body and a surface on the normal force exerted on the surface by the body, and explain the meaning of the coefficient of friction Use Ohm’s law to calculate the voltage across, the current through, or the resistance of a circuit element in a direct current circuit</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Algebra	
Creating Equations*	[A-CED]
Create equations that describe numbers or relationships	
<p>2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p>	<p>Algebra I Translate real-world problems into expressions using variables to represent values Solve single-step and multistep equations and inequalities in one variable Solve equations that contain absolute value Write linear equations in standard form and slope-intercept form when given two points, a point and the slope, or the graph of the equation Identify, formulate, and obtain solutions to problems involving direct and inverse variation Graph linear inequalities in one variable on the real number line to solve problems Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions Evaluate and simplify rational expressions</p> <p>Algebra II Solve compound inequalities containing “and” and “or” and graph the solution set Solve mathematical and real-world rational equation problems (e.g., work or rate problems)</p> <p>Precalculus Solve equations involving real exponents Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)</p> <p>Chemistry Explain density qualitatively and solve density problems by applying an understanding of the concept of density Define the gas laws given by Boyle, Charles, Gay-Lussac, and Dalton and solve problems based on these laws Describe Avogadro’s hypothesis and use it to solve stoichiometric problems Apply the mathematical relationships that exist among the volume, temperature, pressure, and number of particles in an ideal gas</p> <p>Physics Write equations for the displacement and velocity of an object over time; based on these equations, recognize and/or draw graphs of the object’s displacement and velocity versus time Solve problems in kinematics using the equations $v = v_o + at$, $s = s_o + v_o t + (1/2)at^2$, and $v_{avg} = (s - s_o)/t$ Write equations for the horizontal and vertical components of both a projectile’s displacement over time and its velocity over time Calculate the displacement, velocity, and altitude over time for a projectile that is launched at a given initial velocity from a launch site at a given altitude above a horizontal plane Write the equation for the force exerted by an ideal spring, both as a function of the amount the spring is stretched and as a function of the amount the spring is compressed; in each case, write the equation for the potential energy stored in the spring Write an equation that describes the dependence of the frictional force between a body and a surface on the normal force exerted on the surface by the body, and explain the meaning of the coefficient of friction Use Ohm’s law to calculate the voltage across, the current through, or the resistance of a circuit element in a direct current circuit</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Algebra		
Creating Equations*		[A-CED]
Create equations that describe numbers or relationships		
3.	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Algebra I Give the domain and range of relations and functions Evaluate functions at given values Identify graphs of relations and functions and analyze them to determine whether a relation is a function (e.g., vertical line test) Graph a linear equation using a table of values, x- and y-intercepts, slope-intercept form, and technology</p> <p>Algebra II Solve linear programming problems by finding maximum and minimum values of a function over a region defined by linear inequalities Determine the domain and range of a quadratic function; graph the function with and without technology</p>
4.	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .	<p>Algebra I Solve formulas for a specified variable</p> <p>Chemistry Solve for unknown quantities by manipulating variables</p> <p>Physics Solve for unknown quantities by manipulating variables</p>
Reasoning with Equations and Inequalities		[A-REI]
Understand solving equations as a process of reasoning and explain the reasoning		
1.	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	<p>Algebra I Solve single-step and multistep equations and inequalities in one variable Solve equations that contain absolute value Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle</p>
2.	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	<p>Algebra II Solve mathematical and real-world rational equation problems (e.g., work or rate problems) Evaluate expressions and solve equations containing nth roots or rational exponents Evaluate and solve radical equations given a formula for a real-world situation</p>
Solve equations and inequalities in one variable		
3.	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	<p>Algebra I Solve single-step and multistep equations and inequalities in one variable Solve formulas for a specified variable Graph linear inequalities in one variable on the real number line to solve problems</p> <p>Chemistry Solve for unknown quantities by manipulating variables</p> <p>Physics Solve for unknown quantities by manipulating variables</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Algebra		
Reasoning with Equations and Inequalities		[A-REI]
Solve equations and inequalities in one variable		
4. Solve quadratic equations in one variable.	<p>a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.</p> <p>b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.</p>	<p>Algebra I Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle</p> <p>Algebra II Solve quadratic equations and inequalities using various techniques, including completing the square and using the quadratic formula Solve quadratic equations with complex number solutions Solve quadratic systems graphically and algebraically with and without technology</p>
Solve systems of equations		
5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.		<p>Algebra I Solve systems of two equations using various methods, including elimination, substitution, and graphing with and without technology</p> <p>Precalculus Find the reduced row-echelon form of an augmented matrix to solve systems of equations</p>
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.		<p>Algebra I Solve systems of two equations using various methods, including elimination, substitution, and graphing with and without technology</p>
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.		<p>Algebra II Solve quadratic systems graphically and algebraically with and without technology</p>
8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.		<p>Precalculus Find the reduced row-echelon form of an augmented matrix to solve systems of equations</p>
9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).		<p>Algebra II Find the inverse of a 2×2 matrix Solve systems of equations by using inverses of matrices and determinants Use technology to perform operations on matrices, find determinants, and find inverses</p>
Represent and solve equations and inequalities graphically		
10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).		<p>Algebra I Write linear equations in standard form and slope-intercept form when given two points, a point and the slope, or the graph of the equation Give the domain and range of relations and functions Evaluate functions at given values Identify graphs of relations and functions and analyze them to determine whether a relation is a function (e.g., vertical line test) Graph a linear equation using a table of values, x- and y-intercepts, slope-intercept form, and technology Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables Solve quadratic equations using multiple methods, including graphing, factoring, and the square root principle</p> <p>Algebra II Determine the domain and range of a quadratic function; graph the function with and without technology</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Algebra	
Reasoning with Equations and Inequalities [A-REI]	
Represent and solve equations and inequalities graphically	
<p>11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*</p>	<p>All QualityCore Mathematics Courses Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Algebra I Solve systems of two equations using various methods, including elimination, substitution, and graphing with and without technology</p> <p>Algebra II Solve quadratic systems graphically and algebraically with and without technology Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function Convert exponential equations to logarithmic form and logarithmic equations to exponential form</p> <p>Precalculus Use technology to approximate the real roots of a polynomial equation</p>
<p>12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p>	<p>Algebra I Graph linear inequalities with two variables on the standard (x,y) coordinate plane</p> <p>Algebra II Graph a system of linear inequalities in two variables with and without technology to find the solution set to the system Solve linear programming problems by finding maximum and minimum values of a function over a region defined by linear inequalities</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Interpreting Functions	[F-IF]
Understand the concept of a function and use function notation	
<p>1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.</p>	<p>All QualityCore Mathematics Courses Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Algebra I Give the domain and range of relations and functions Evaluate functions at given values</p> <p>Algebra II Determine the domain and range of a quadratic function; graph the function with and without technology</p>
<p>2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</p>	<p>All QualityCore Mathematics Courses Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Algebra I Give the domain and range of relations and functions Evaluate functions at given values Evaluate and simplify rational expressions Evaluate and simplify radical expressions</p> <p>Algebra II Determine the domain and range of a quadratic function; graph the function with and without technology</p>
<p>3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n + 1) = f(n) + f(n - 1)$ for $n \geq 1$.</p>	<p>Algebra I Identify arithmetic sequences and patterns in a set of data Identify patterns of growth (e.g., patterns of exponential growth) in a set of data</p> <p>Algebra II Find the nth term of an arithmetic or geometric sequence Find the position of a given term of an arithmetic or geometric sequence</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Interpreting Functions	[F-IF]
Interpret functions that arise in applications in terms of the context	
<p>4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</p>	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Algebra I Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions</p> <p>Algebra II Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function</p> <p>Biology Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>
<p>5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*</p>	<p>All QualityCore Mathematics Courses Apply problem-solving skills (e.g., identifying irrelevant or missing information, making conjectures, extracting mathematical meaning, recognizing and performing multiple steps when needed, verifying results in the context of the problem) to the solution of real-world problems Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Algebra I Give the domain and range of relations and functions</p> <p>Algebra II Determine the domain and range of a quadratic function; graph the function with and without technology Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function Solve mathematical and real-world rational equation problems (e.g., work or rate problems)</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Interpreting Functions	[F-IF]
Interpret functions that arise in applications in terms of the context	
<p>6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*</p>	<p>Algebra I Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description</p> <p>Precalculus Use limits to approximate the slope of a curve at a point</p> <p>Biology Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics Calculate slope and explain its physical significance (e.g., velocity is slope on a displacement-time graph) Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Interpreting Functions	[F-IF]
Analyze functions using different representations	
<p>7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <ul style="list-style-type: none"> a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. 	<p>Algebra I Write and graph linear equations and inequalities from real-world situations (e.g., a constant-rate distance/time problem) Graph linear inequalities with two variables on the standard (x,y) coordinate plane Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions</p> <p>Algebra II Determine the domain and range of a quadratic function; graph the function with and without technology Use transformations (e.g., translation, reflection) to draw the graph of a relation and determine a relation that fits a graph Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function Graph exponential and logarithmic functions with and without technology</p> <p>Precalculus Identify and graph piecewise functions, including greatest integer, step, and absolute value functions Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology Graph general polynomial functions from given characteristics such as degree, sign of lead coefficient, and roots and their multiplicity</p> <p>Biology Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data) Describe the growth of populations, including exponential and logistic growth (e.g., design and conduct an experiment investigating bacterial growth using appropriate calculations)</p> <p>Chemistry Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data Sketch the standing waves for various modes, and determine the frequency, wavelength, and amplitude of each mode, for a string that has been pulled taut and fastened at both ends Sketch the standing waves for pipes with various combinations of open and closed ends (i.e., both ends open, both ends closed, and one end open and one closed), and find the wavelength and frequency of each mode</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Interpreting Functions	[F-IF]
Analyze functions using different representations	
<p>8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.</p> <p>b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.</p>	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Algebra I Identify graphs of quadratic functions Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions Identify patterns of growth (e.g., patterns of exponential growth) in a set of data</p> <p>Algebra II Solve quadratic equations and inequalities using various techniques, including completing the square and using the quadratic formula Determine the domain and range of a quadratic function; graph the function with and without technology Use transformations (e.g., translation, reflection) to draw the graph of a relation and determine a relation that fits a graph Convert exponential equations to logarithmic form and logarithmic equations to exponential form</p> <p>Precalculus Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)</p>
<p>9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</p>	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships</p> <p>Algebra I Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Building Functions [F-BF]	
Build a function that models a relationship between two quantities	
<p>1. Write a function that describes a relationship between two quantities.*</p> <p>a. Determine an explicit expression, a recursive process, or steps for calculation from a context.</p> <p>b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</p> <p>c. (+) Compose functions. For example, if $T(y)$ is the temperature in the atmosphere as a function of height, and $h(t)$ is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.</p>	<p>All QualityCore Mathematics Courses</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Algebra I</p> <p>Write linear equations in standard form and slope-intercept form when given two points, a point and the slope, or the graph of the equation</p> <p>Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables</p> <p>Algebra II</p> <p>Perform operations on functions, including function composition, and determine domain and range for each of the given functions</p> <p>Find the nth term of an arithmetic or geometric sequence</p>
<p>2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*</p>	<p>Algebra I</p> <p>Identify arithmetic sequences and patterns in a set of data</p> <p>Identify patterns of growth (e.g., patterns of exponential growth) in a set of data</p> <p>Algebra II</p> <p>Use the fundamental counting principle to count the number of ways an event can happen</p> <p>Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities)</p>
Build new functions from existing functions	
<p>3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.</p>	<p>Algebra I</p> <p>Graph a linear equation using a table of values, x- and y-intercepts, slope-intercept form, and technology</p> <p>Identify graphs of quadratic functions</p> <p>Relate factors, solutions (roots), zeros of related functions, and x-intercepts in equations that arise from quadratic functions</p> <p>Geometry</p> <p>Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane</p> <p>Algebra II</p> <p>Use transformations (e.g., translation, reflection) to draw the graph of a relation and determine a relation that fits a graph</p> <p>Precalculus</p> <p>Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology</p> <p>Classify functions as even, odd, or neither</p>

Common Core State Standards for Mathematics High School	ACT Course Standards
Functions	
Building Functions [F-BF]	
Build new functions from existing functions	
<p>4. Find inverse functions.</p> <p>a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. For example, $f(x) = 2x^3$ or $f(x) = (x + 1)/(x - 1)$ for $x \neq 1$.</p> <p>b. (+) Verify by composition that one function is the inverse of another.</p> <p>c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.</p> <p>d. (+) Produce an invertible function from a non-invertible function by restricting the domain.</p>	<p>All QualityCore Mathematics Courses</p> <p>Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly</p> <p>Precalculus</p> <p>Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology</p>
<p>5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.</p>	<p>Algebra II</p> <p>Convert exponential equations to logarithmic form and logarithmic equations to exponential form</p> <p>Precalculus</p> <p>Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology</p>
Linear, Quadratic, and Exponential Models* [F-LE]	
Construct and compare linear, quadratic, and exponential models and solve problems	
<p>1. Distinguish between situations that can be modeled with linear functions and with exponential functions.</p> <p>a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.</p> <p>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</p> <p>c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p>	<p>All QualityCore Mathematics Courses</p> <p>Make mathematical connections among concepts, across disciplines, and in everyday experiences</p> <p>Algebra I</p> <p>Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description</p> <p>Identify arithmetic sequences and patterns in a set of data</p> <p>Identify patterns of growth (e.g., patterns of exponential growth) in a set of data</p> <p>Algebra II</p> <p>Graph exponential and logarithmic functions with and without technology</p> <p>Find the nth term of an arithmetic or geometric sequence</p> <p>Use sequences and series to solve real-world problems</p> <p>Precalculus</p> <p>Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)</p>
<p>2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).</p>	<p>Algebra I</p> <p>Write linear equations in standard form and slope-intercept form when given two points, a point and the slope, or the graph of the equation</p> <p>Identify arithmetic sequences and patterns in a set of data</p> <p>Algebra II</p> <p>Convert exponential equations to logarithmic form and logarithmic equations to exponential form</p> <p>Find the nth term of an arithmetic or geometric sequence</p> <p>Find the position of a given term of an arithmetic or geometric sequence</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Functions		
Linear, Quadratic, and Exponential Models*		[F-LE]
Construct and compare linear, quadratic, and exponential models and solve problems		
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	All QualityCore Mathematics Courses Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established) Algebra II Graph exponential and logarithmic functions with and without technology	
4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.	All QualityCore Mathematics Courses Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established) Algebra II Convert exponential equations to logarithmic form and logarithmic equations to exponential form Precalculus Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)	
Interpret expressions for functions in terms of the situation they model		
5. Interpret the parameters in a linear or exponential function in terms of a context.	Algebra I Write and graph linear equations and inequalities from real-world situations (e.g., a constant-rate distance/time problem) Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description Graph a linear equation using a table of values, x - and y -intercepts, slope-intercept form, and technology Translate between different representations of relations and functions: graphs, equations, sets of ordered pairs, verbal descriptions, and tables Precalculus Solve exponential and logarithmic equations and real-world problems involving exponential and logarithmic equations (e.g., compound interest, exponential growth and decay)	
Trigonometric Functions		[F-TF]
Extend the domain of trigonometric functions using the unit circle		
1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	Algebra II Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles Measure angles in standard position using degree or radian measure and convert a measure from one unit to the other	
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	Algebra II Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles Determine the domain and range of the sine and cosine functions, given a graph	
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x , where x is any real number.	Geometry Apply properties of 45° - 45° - 90° and 30° - 60° - 90° triangles to determine lengths of sides of triangles Algebra II Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles Measure angles in standard position using degree or radian measure and convert a measure from one unit to the other	

Common Core State Standards for Mathematics High School		ACT Course Standards
Functions		
Trigonometric Functions		[F-TF]
Extend the domain of trigonometric functions using the unit circle		
4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.	Algebra II Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles Measure angles in standard position using degree or radian measure and convert a measure from one unit to the other Precalculus Use algebraic tests to determine whether the graph of a relation is symmetrical Classify functions as even, odd, or neither	
Model periodic phenomena with trigonometric functions		
5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*	Algebra II Find the period and amplitude of the sine and cosine functions, given a graph Use sine, cosine, and tangent functions, including their domains and ranges, periodic nature, and graphs, to interpret and analyze relations Precalculus Graph and write the equations of sine and cosine functions given the amplitude, period, phase shift, and vertical translation; use the functions to model real-life situations (e.g., spring problems, ocean tides)	
6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.	Precalculus Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology Identify and graph inverse sine, cosine, and tangent functions	
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*	Precalculus Identify, graph, and write equations for inverses and transformations of various functions—including polynomial, rational, radical, absolute value, and trigonometric—with and without technology Use and evaluate inverse sine, cosine, and tangent functions to solve trigonometric equations	
Prove and apply trigonometric identities		
8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.	Geometry Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders) Find the sine, cosine, and tangent ratios of acute angles given the side lengths of right triangles Algebra II Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles	
9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.	Precalculus Identify the sum and difference identities for the sine, cosine, and tangent functions; apply the identities to solve mathematical problems	

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Congruence		[G-CO]
Experiment with transformations in the plane		
1.	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	All QualityCore Mathematics Courses Use the language of mathematics to communicate increasingly complex ideas orally and in writing, using symbols and notations correctly Geometry Use definitions, basic postulates, and theorems about points, segments, lines, angles, and planes to write proofs and to solve problems
2.	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	Geometry Identify and draw images of transformations and use their properties to solve problems Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane
3.	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Geometry Determine points or lines of symmetry and apply the properties of symmetry to figures Identify and draw images of transformations and use their properties to solve problems
4.	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Geometry Determine points or lines of symmetry and apply the properties of symmetry to figures Identify and draw images of transformations and use their properties to solve problems
5.	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	Geometry Determine the effect of reflections, rotations, translations, and dilations and their compositions on the coordinate plane
Understand congruence in terms of rigid motions		
6.	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Geometry Identify and draw images of transformations and use their properties to solve problems
7.	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Geometry Prove that two triangles are congruent by applying the SSS, SAS, ASA, AAS, and HL congruence statements Identify congruent figures and their corresponding parts
8.	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Geometry Prove that two triangles are congruent by applying the SSS, SAS, ASA, AAS, and HL congruence statements Identify and draw images of transformations and use their properties to solve problems
Prove geometric theorems		
9.	Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	Geometry Use definitions, basic postulates, and theorems about points, segments, lines, angles, and planes to write proofs and to solve problems Use various methods to prove that two lines are parallel or perpendicular (e.g., using coordinates, angle measures) Use several methods, including AA, SAS, and SSS, to prove that two triangles are similar, corresponding sides are proportional, and corresponding angles are congruent Apply properties and theorems of parallel and perpendicular lines to solve problems

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Congruence		[G-CO]
Prove geometric theorems		
10. Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.		Geometry Prove that two triangles are congruent by applying the SSS, SAS, ASA, AAS, and HL congruence statements Use several methods, including AA, SAS, and SSS, to prove that two triangles are similar, corresponding sides are proportional, and corresponding angles are congruent Apply the Angle Sum Theorem for triangles and polygons to find interior and exterior angle measures given the number of sides, to find the number of sides given angle measures, and to solve real-world problems Apply the Isosceles Triangle Theorem and its converse to triangles to solve mathematical and real-world problems
11. Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.		Geometry Use the principle that corresponding parts of congruent triangles are congruent to solve problems Use properties of special quadrilaterals in a proof
Make geometric constructions		
12. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). <i>Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</i>		Geometry Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors Locate, describe, and draw a locus in a plane or space
13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.		Geometry Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors Locate, describe, and draw a locus in a plane or space
Similarity, Right Triangles, and Trigonometry		[G-SRT]
Understand similarity in terms of similarity transformations		
1. Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.		Geometry Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons Apply relationships between perimeters of similar figures, areas of similar figures, and volumes of similar figures, in terms of scale factor, to solve mathematical and real-world problems Use slope to distinguish between and write equations for parallel and perpendicular lines
2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.		Geometry Identify similar figures and use ratios and proportions to solve mathematical and real-world problems (e.g., finding the height of a tree using the shadow of the tree and the height and shadow of a person) Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.		Geometry Use several methods, including AA, SAS, and SSS, to prove that two triangles are similar, corresponding sides are proportional, and corresponding angles are congruent Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Similarity, Right Triangles, and Trigonometry		[G-SRT]
Prove theorems involving similarity		
4. Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.	Geometry Prove that two triangles are congruent by applying the SSS, SAS, ASA, AAS, and HL congruence statements Use several methods, including AA, SAS, and SSS, to prove that two triangles are similar, corresponding sides are proportional, and corresponding angles are congruent Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders)	
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Geometry Use several methods, including AA, SAS, and SSS, to prove that two triangles are similar, corresponding sides are proportional, and corresponding angles are congruent Use the definition of similarity to establish the congruence of angles, proportionality of sides, and scale factor of two similar polygons Apply relationships between perimeters of similar figures, areas of similar figures, and volumes of similar figures, in terms of scale factor, to solve mathematical and real-world problems	
Define trigonometric ratios and solve problems involving right triangles		
6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	Geometry Apply properties of 45°-45°-90° and 30°-60°-90° triangles to determine lengths of sides of triangles Find the sine, cosine, and tangent ratios of acute angles given the side lengths of right triangles	
7. Explain and use the relationship between the sine and cosine of complementary angles.	Geometry Find the sine, cosine, and tangent ratios of acute angles given the side lengths of right triangles	
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*	Geometry Apply the Pythagorean Theorem and its converse to triangles to solve mathematical and real-world problems (e.g., shadows and poles, ladders)	
Apply trigonometry to general triangles		
9. (+) Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	Geometry Use coordinate geometry to solve problems about geometric figures (e.g., segments, triangles, quadrilaterals)	
10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.	Geometry Use inductive reasoning to make conjectures and deductive reasoning to arrive at valid conclusions Algebra II Use the law of cosines and the law of sines to find the lengths of sides and measures of angles of triangles in mathematical and real-world problems	
11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	Algebra II Use the law of cosines and the law of sines to find the lengths of sides and measures of angles of triangles in mathematical and real-world problems Precalculus Use various methods to find the area of a triangle (e.g., given the length of two sides and the included angle)	

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Circles		[G-C]
Understand and apply theorems about circles		
1. Prove that all circles are similar.	Geometry Identify and draw images of transformations and use their properties to solve problems	
2. Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	Geometry Identify and define line segments associated with circles (e.g., radii, diameters, chords, secants, tangents) Determine the measure of central and inscribed angles and their intercepted arcs Find segment lengths, angle measures, and intercepted arc measures formed by chords, secants, and tangents intersecting inside and outside circles	
3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	Geometry Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors	
4. (+) Construct a tangent line from a point outside a given circle to the circle.	Geometry Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors Locate, describe, and draw a locus in a plane or space	
Find arc lengths and areas of sectors of circles		
5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	Geometry Find segment lengths, angle measures, and intercepted arc measures formed by chords, secants, and tangents intersecting inside and outside circles	
Expressing Geometric Properties with Equations		[G-GPE]
Translate between the geometric description and the equation for a conic section		
1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	Geometry Write equations for circles in standard form and solve problems using equations and graphs Algebra II Determine characteristics of circles and parabolas from their equations and graphs Identify and write equations for circles and parabolas from given characteristics and graphs Precalculus Convert conic equations in general form to standard form	
2. Derive the equation of a parabola given a focus and directrix.	Algebra II Determine characteristics of circles and parabolas from their equations and graphs Identify and write equations for circles and parabolas from given characteristics and graphs	
3. (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.	Precalculus Identify and write equations for ellipses and hyperbolas from given characteristics and graphs	
Use coordinates to prove simple geometric theorems algebraically		
4. Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1,\sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.	Geometry Use coordinate geometry to solve problems about geometric figures (e.g., segments, triangles, quadrilaterals)	

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Expressing Geometric Properties with Equations		[G-GPE]
Use coordinates to prove simple geometric theorems algebraically		
5.	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Geometry Apply properties and theorems of parallel and perpendicular lines to solve problems Use slope to distinguish between and write equations for parallel and perpendicular lines
6.	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	Geometry Use construction techniques, including straightedge and compass, to bisect and trisect segments and to create parallel and perpendicular lines, perpendicular bisectors, and angle bisectors Identify similar figures and use ratios and proportions to solve mathematical and real-world problems (e.g., finding the height of a tree using the shadow of the tree and the height and shadow of a person) Apply the midpoint and distance formulas to points and segments to find midpoints, distances, and missing information Use coordinate geometry to solve problems about geometric figures (e.g., segments, triangles, quadrilaterals)
7.	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*	Geometry Apply the midpoint and distance formulas to points and segments to find midpoints, distances, and missing information Use coordinate geometry to solve problems about geometric figures (e.g., segments, triangles, quadrilaterals)
Geometric Measurement and Dimension		[G-GMD]
Explain volume formulas and use them to solve problems		
1.	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	Geometry Use cross sections of prisms, cylinders, pyramids, and cones to solve volume problems Precalculus Use limits to approximate the area under a curve
2.	(+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.	Geometry Use cross sections of prisms, cylinders, pyramids, and cones to solve volume problems Find the surface area and volume of a sphere in mathematical and real-world settings
3.	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*	Geometry Find the lateral area, surface area, and volume of prisms, cylinders, cones, and pyramids in mathematical and real-world settings
Visualize relationships between two-dimensional and three-dimensional objects		
4.	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	Geometry Describe and draw cross sections of prisms, cylinders, pyramids, and cones Use cross sections of prisms, cylinders, pyramids, and cones to solve volume problems

Common Core State Standards for Mathematics High School		ACT Course Standards Mathematics
Geometry		
Modeling with Geometry		[G-MG]
Apply geometric concepts in modeling situations		
1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*	All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Geometry Apply relationships between perimeters of similar figures, areas of similar figures, and volumes of similar figures, in terms of scale factor, to solve mathematical and real-world problems Find the lateral area, surface area, and volume of prisms, cylinders, cones, and pyramids in mathematical and real-world settings Find the surface area and volume of a sphere in mathematical and real-world settings	
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*	All QualityCore Mathematics Courses Make mathematical connections among concepts, across disciplines, and in everyday experiences Geometry Identify and classify prisms, pyramids, cylinders, cones, and spheres and use their properties to solve problems	
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*	All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences Geometry Use coordinate geometry to solve problems about geometric figures (e.g., segments, triangles, quadrilaterals)	

Common Core State Standards for Mathematics High School		ACT Course Standards
Statistics and Probability*		
Interpreting Categorical and Quantitative Data		[S-ID]
Summarize, represent, and interpret data on a single count or measurement variable		
1. Represent data with plots on the real number line (dot plots, histograms, and box plots).	Algebra I Identify the effect on mean, median, mode, and range when a set of data is changed Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions	
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Precalculus Determine the quartiles and interquartile range for a set of data Find the variance and standard deviation of a set of data and convert data to standard values	
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Precalculus Identify uniform, skewed, and normal distributions in a set of data	
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	Precalculus Use the standard normal curve to study properties of normal distributions of data (e.g., give percent of data within a given interval)	
Summarize, represent, and interpret data on two categorical and quantitative variables		
5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	Algebra I Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions Identify an approximate line of best fit to model data and make predictions Biology Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments) Chemistry Collect, organize, and analyze data accurately and use techniques and equipment appropriately Physics Collect, organize, and analyze data accurately and use appropriate techniques and devices	

Common Core State Standards for Mathematics High School	ACT Course Standards
Statistics and Probability*	
Interpreting Categorical and Quantitative Data [S-ID]	
Summarize, represent, and interpret data on two categorical and quantitative variables	
<p>6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <p>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</p> <p>b. Informally assess the fit of a function by plotting and analyzing residuals.</p> <p>c. Fit a linear function for a scatter plot that suggests a linear association.</p>	<p>Algebra I Identify the effect on mean, median, mode, and range when a set of data is changed Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions Identify an approximate line of best fit to model data and make predictions</p> <p>Biology Calculate the mean of a set of values Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)</p> <p>Chemistry Use appropriate statistical methods to represent the results of investigations Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p> <p>Physics Calculate/estimate, using significant figures, the uncertainty in experimental results, and use the uncertainty to evaluate and interpret results Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data</p>
Interpret linear models	
<p>7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.</p>	<p>Algebra I Recognize the concept of slope as a rate of change and determine the slope when given the equation of a line in standard form or slope-intercept form, the graph of a line, two points, or a verbal description</p>
<p>8. Compute (using technology) and interpret the correlation coefficient of a linear fit.</p>	<p>All QualityCore Mathematics Courses Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Algebra I Identify an approximate line of best fit to model data and make predictions</p>
<p>9. Distinguish between correlation and causation.</p>	<p>All QualityCore Mathematics Courses Represent data, real-world situations, and solutions in increasingly complex contexts (e.g., expressions, formulas, tables, charts, graphs, relations, functions) and understand the relationships Make mathematical connections among concepts, across disciplines, and in everyday experiences Demonstrate the appropriate role of technology (e.g., calculators, software programs) in mathematics (e.g., organize data, develop concepts, explore relationships, decrease time spent on computations after a skill has been established)</p> <p>Algebra I Identify an approximate line of best fit to model data and make predictions</p>

Common Core State Standards for Mathematics High School		ACT Course Standards
Statistics and Probability*		
Making Inferences and Justifying Conclusions		[S-IC]
Understand and evaluate random processes underlying statistical experiments		
1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Precalculus Recognize different types of sampling procedures and identify their strengths and limitations Estimate population characteristics based on samples	
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?	Algebra I Identify patterns of growth (e.g., patterns of exponential growth) in a set of data Find the probability of a simple event Algebra II Find the probability of independent and dependent events Biology Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data) Chemistry Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data Physics Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data	
Make inferences and justify conclusions from sample surveys, experiments, and observational studies		
3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	Precalculus Recognize different types of sampling procedures and identify their strengths and limitations	
4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	Precalculus Recognize different types of sampling procedures and identify their strengths and limitations Estimate population characteristics based on samples Biology Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments) Calculate the mean of a set of values Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data)	

Common Core State Standards for Mathematics High School	ACT Course Standards
Statistics and Probability*	
Making Inferences and Justifying Conclusions	[S-IC]
Make inferences and justify conclusions from sample surveys, experiments, and observational studies	
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	Precalculus Use the standard normal curve to study properties of normal distributions of data (e.g., give percent of data within a given interval) Recognize different types of sampling procedures and identify their strengths and limitations Estimate population characteristics based on samples
6. Evaluate reports based on data.	All QualityCore Mathematics Courses Make mathematical connections among concepts, across disciplines, and in everyday experiences Algebra I Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions Biology Collect, organize, and analyze data accurately and precisely (e.g., using scientific techniques and mathematics in experiments) Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical models, mathematical models, and simple statistical models to express patterns and relationships determined from sets of scientific data Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Use mathematics to enhance the scientific inquiry process (e.g., choosing appropriate units of measurement, graphing and manipulating experimental data) Chemistry Collect, organize, and analyze data accurately and use techniques and equipment appropriately Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly Physics Collect, organize, and analyze data accurately and use appropriate techniques and devices Interpret results and draw conclusions, revising hypotheses as necessary and/or formulating additional questions or explanations Use graphical, mathematical, and/or statistical models to express patterns and relationships inferred from sets of scientific data Use a variety of appropriate sources (e.g., Internet, scientific journals) to retrieve relevant information; cite references properly

Common Core State Standards for Mathematics High School		ACT Course Standards
Statistics and Probability*		
Conditional Probability and the Rules of Probability		[S-CP]
Understand independence and conditional probability and use them to interpret data		
1.	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	Algebra II Use unions, intersections, and complements to find probabilities
2.	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Algebra II Find the probability of independent and dependent events
3.	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A , and the conditional probability of B given A is the same as the probability of B .	Algebra I Distinguish between independent and dependent events Algebra II Find the probability of independent and dependent events Solve problems involving conditional probability
4.	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.	Algebra I Interpret data from line, bar, and circle graphs, histograms, scatterplots, box-and-whisker plots, stem-and-leaf plots, and frequency tables to draw inferences and make predictions Distinguish between independent and dependent events Algebra II Find the probability of independent and dependent events Solve problems involving conditional probability
5.	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.	Algebra II Solve problems involving conditional probability
Use the rules of probability to compute probabilities of compound events in a uniform probability model		
6.	Find the conditional probability of A given B as the fraction of B 's outcomes that also belong to A , and interpret the answer in terms of the model.	Algebra II Solve problems involving conditional probability
7.	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.	Algebra II Find the probability of independent and dependent events
8.	(+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model.	Algebra II Find the probability of independent and dependent events
9.	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities)
Using Probability to Make Decisions		[S-MD]
Calculate expected values and use them to solve problems		
1.	(+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.	Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities) Use unions, intersections, and complements to find probabilities

Common Core State Standards for Mathematics High School	ACT Course Standards
Statistics and Probability*	
Using Probability to Make Decisions	[S-MD]
Calculate expected values and use them to solve problems	
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.	Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities) Find the probability of mutually exclusive and nonmutually exclusive events Find the probability of independent and dependent events
3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.	Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities) Find the probability of mutually exclusive and nonmutually exclusive events Find the probability of independent and dependent events
4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?	Algebra I Find the probability of a simple event
Use probability to evaluate outcomes of decisions	
5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. a. Find the expected payoff for a game of chance. For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant. b. Evaluate and compare strategies on the basis of expected values. For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.	Algebra II Use the fundamental counting principle to count the number of ways an event can happen Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities)
6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	Algebra I Find the probability of a simple event Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities) Biology Construct and interpret Punnett squares and pedigree charts (e.g., calculate and predict phenotypic and genotypic ratios and probabilities)
7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).	All QualityCore Mathematics Courses Make mathematical connections among concepts, across disciplines, and in everyday experiences Algebra II Use counting techniques, like combinations and permutations, to solve problems (e.g., to calculate probabilities) Solve problems involving conditional probability Biology Construct and interpret Punnett squares and pedigree charts (e.g., calculate and predict phenotypic and genotypic ratios and probabilities)

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